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"SPECIAL ISSUE ON URBAN GOVERNANCE"

IC Centre for Governance
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IC Centre for Governance
Niryat Bhawan, Rao Tula Ram Marg, New Delhi-110057

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EDITORIAL

This is a real privilege given to me by Shri Prabhat Kumar and the editorial committee of the Journal to be the guest editor for this issue, focussing on Urban governance. There was a time when we all believed that India lives in its villages. Yes, villages are important for our country but it is time we focussed on the problems and issues relating to our urban areas as well. For long, the feeling was that cities and towns can take care of themselves and there is no need to invest in these. As a result what has happened is the huge generators of GDP, tax revenue and employment that these urban entities are facing very serious problems like inadequate access to proper drinking water, continuing spread of slums since the economically weaker sections who migrate to cities and towns cannot afford to get even a minimum level of accommodation, garbage strewn areas, people defecating in the open in large numbers, poor sewage facility and connectivity, miserable city transport facilities coupled with ever increasing congestion on roads and so on. The question is why this neglect of cities.

The latest census figures show that 31.6% of our population lives in our 7935 cities and towns. There is an issue here also. As many as 3894 of these towns are "census" towns meaning they are not statutorily formed as an urban local body. So the rural title continues but in effect they are struggling with the very same key urban issues which the formally notified towns are facing. Quite often since the largesse of rural funding is so attractive, many of them may not be keen to become a formal urban body which means people have to pay taxes and pay for the services, in whatever form they come. We now have as many as 53 cities with million plus population. Their problems, in a way are of more complicated dimensions. While as cities grow, more of the movements within the city, in effect something like 60 to 70%

of internal travel within the city should be by public transport modes, we have been able to think of metro systems only for seven cities so far. Bus rapid transit system, another mode of good city transport, has been initiated only in about ten cities.

Further when we look at basic issues, we find that as many as 24% of our urban population live in slums. Something like 26% of the urban dwellers are estimated to be below the monthly consumption level of Rs 539 in the year 2004-05. Only 64% of the urban population is covered by individual water supply connections or stand posts with duration of water supply being on an average one to six hours. When it comes to waste collection, only 50% coverage exists in our small cities and less than 30% solid waste is segregated. The broad message is that rapid urbanisation has resulted in poor quality of life in our cities and towns.

How long can we afford to ignore these fundamental issues and continue to talk about planned development and high growth rates when it comes at a certain cost to the urban dweller. Despite the Constitution amendment and some half hearted policy statements once in a while, we still have not been able to sort out the basic issue as to what the third level of governance should be mandated to and to what extent they should be allowed to raise resources. Whichever state experimented with concepts like a directly elected mayor and five year term for the mayor seem to be going back to a safe concept of indirectly elected mayors that too for a limited one year tenure. Is there a fear that fully empowered mayors, allowed to function in the larger interests of the city will turn out to be potential candidates for Parliament and thereby undermine the chances of the present representatives? The mayors of New York or London are well known and they hold sufficient control over their jurisdictions. The mayor of Bogota was far sighted enough to think of a wide network of bus rapid transit that ultimately addressed the congestion and delay issues , people themselves championing the fact that Transmillenio is one of the most efficient and widely used urban transport systems

The critical issue in our urban system today is that of governance, covering various aspects of it such as who is responsible for the city, how strong and effective should it be, where are the resources to come from, how a conscious effort should be there in each city to look at service level benchmarks and bring about continuous, steady improvements, who is mandated to provide housing in the city so that the large number of migrants who provide various basic essential services can also hope to have proper shelter, where does the state's responsibility end and how empowered the local governance is going to be, how will the felt need for a strong, professional municipal cadre be met and so on. While we seem to be happily continuing with the old systems where after rendering a certain level of service or work, the city managers said this is all we can do within our resources and enlightened citizens either did not want to or did not bother to take any interest in city matters, there are no signs of any fundamental change taking place. There are eight basic services such as issue of birth certificate, death certificate etc which are supposed to be on line. But the way we function is so beautiful that no state in the country can claim that it has ensured this. While technology can be helpful in making city living easier, there is just no accountability in matters like this and the blame shifting game goes on.

Urban governance as a subject and as a system is a fascinating area today but unfortunately we have not been able to build up a dedicated cadre in this area. Experience shows that wherever cities had young, directly recruited all India service officers for a reasonable period as commissioners, things have started happening differently. Today we can recount unique initiatives such as 24x7 water supply in the entire city, BRTS with dedicated corridors substantially improving movement within the city, cities becoming not only garbage free but waste becoming a resource for the city because it is put to use either for generating energy or converted into pellets, public private partnership projects becoming a reality in our cities as well, ICT being leveraged by cities for better management of services and so

on. It is time states take up the issue of having professionals also to handle city matters and it is time the central government decided to go in for a reform linked massive urban infrastructure improvement program, up scaling the first phase of the Jawaharlal Nehru National Urban renewal Mission

We are grateful to the select number of prominent urban thinkers and opinion leaders who have very generously responded to my request to write articles for this special issue. We have a galaxy of them, very eminently covering various important aspects of the large urban agenda. The case studies give an idea as to what is possible and how change is taking place. The World Bank has been good enough to permit inclusion of a very informative article.

This special issue on a topic of great relevance and importance for the country today would serve its purpose if the thinking public get motivated to take up the cause of strengthening our city/town governance system and make a difference starting with the areas each one lives in.

M Ramachandran

Chetan Vaidya and Debolina Kundu

Urban Governance in India: Recent Initiatives

Abstract

In India, urban areas need to improve for the country to achieve fast and sustained economic development. In this context, the Government of India has undertaken several reform linked urban initiatives for urban local bodies like the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and implementation of recommendations of 13th Central Finance Commission. Despite the strong focus on urban reforms, in many ULBs, implementation of governance reforms is not adequate. In this context, this paper, reviews these two initiatives and suggests a way forward.

1.0 Background

In India 31.16 per cent of the population lives in urban areas as per the 2011 Provisional Population Census. It has the second highest urban population in the world. It is clear that urbanization is inevitable in India and it needs to improve its urban infrastructure and governance to improve productivity and create jobs for the poor. In this context, this paper briefly describes institutional issues, initiatives of urban reforms and suggests a way forward.

1.1 Urban Trends

The urban population increased by 90.98 million during 2010-11 was, which is higher than the corresponding increase of 90.47 million in rural areas. For the first time, the absolute increase in population was more in urban areas than that in rural areas as per the 2011 Census (Provisional). The level of urbanization in 2011 was 31.16 per cent compared to 27.8

per cent in 2001. Decadal growth rate during 2001-11 was 31.8 per cent, which was higher than corresponding figure of 31.5 per cent in 1991-2001.

The process of urbanization in India was primarily large-city oriented in the past century. The class I cities dominate India's urban scene in terms of their share of urban population. Since the urban population base of India is very large, the growth rate of 2.76 per cent registered during 2001-11 would translate into an annual addition of over 9 million people. The 2011 census reports an addition of 2532 census towns in 2011, which is a phenomenal increase and throws up a number of challenges in urban governance.

India, the one of the fastest growing economies in the world, recorded an impressive growth of an average of 8.5 to 9 per cent during the Tenth and Eleventh Plan period. Much of this growth is attributed to the robust urban sector growth, which contributes over 60 per cent of the national GDP. In the coming decades, the urban sector is expected to play a critical role in bringing about growth of the entire economy and also sustaining it at high levels.

1.2 Institutional Issues

The existing local government framework enjoins upon the units of local self-government to be the basic entities for municipal governance and provision of basic civic services and urban infrastructure. These are supposed to be provided in an efficient, effective, responsive, and equitable manner to every household of the urban communities. Going by the

Table 1: Urban India Population Trends: 2001-11

Item	2001	2011 (Provisional)
Urban Population (million)	285.0	377.10
% Urban to Total	27.80	31.15
No. of Towns	5161	7935
No. of Statutory Towns	3799	4041

Source: Provisional Population Totals (Rural-Urban Distribution), Census of India, 2011

various municipal legislations in different states, the Urban Local Bodies (ULBs) are devolved with a long list of functions. These include (i) Development Functions, (ii) Public Health Functions, (iii) Welfare Functions, (iv) Regulatory functions, (v) Public Safety, etc.

Service delivery obligation of the ULBs is apparently quite wide and comprehensive. This is why service provision by the ULBs are said to affect the citizens from "the cradle to grave". ULBs of all the three categories (Municipal Corporations, Municipal Council and Nagar Panchayats) are, by and large, required to provide these services under the existing municipal laws. Obviously, this is quite daunting especially for the ULBs functioning in small and medium towns. Even several municipal corporations – the supposedly stronger form of urban local self-government – are not in a position to provide them all and do so effectively. This is evident from lack of basic civic amenities and infrastructure in cities and towns. This becomes obvious even to a casual visitor to urban centres of different size categories. There is a widening gap between aspirations of urban dwellers and the capabilities of the ULBs to augment and equitably distribute municipal services.

Though traditionally city management has been responsible for delivery of essential public service such as health care, water supply, sanitation, primary education, provision and upkeep of public works and regulation of private activities such as trade, profession, building plans, markets, place of entertainment, there has been a trend towards creating specific purpose authorities for performing quite many of these traditional municipal functions. Specific purpose authorities have in fact proliferated over the years. These have been created for water supply and sewerage, slum clearance and improvement, urban planning and development. These patterns of provision of water supply and sewerage are illustrated in Table 2. Even though water supply as a function was transferred to parastatals in several states, the experience of service provision by them has not been very encouraging.

Table 2: Institutional Framework for Delivery of Services in Selected Cities

City	Services provided by			
	ULB	Parasatal/ State Agencies	Development Authority	State Government
Ahmedabad and Pune	All Services	–	–	–
Hyderabad, Bangalore and Chennai	SWM, Roads, Street Lighting, Drainage, etc.	Water Supply and Sewerage	Town Planning	–
Agra	SWM, Roads, Street Lighting, Drainage, etc.	Water Supply and Sewerage	Town Planning	
Bhubaneshwar	SWM, Roads, Street Lighting, Drainage, etc.		Town Planning	Water Supply and Sewerage

It was realised that planning, plan implementation, development processes and authority need to be decentralized to sub-national and local levels. The Constitution was, therefore, amended in 1992 through the enactment of the Constitution (Seventy-fourth Amendment) Act (CAA), 1992. The state governments were required to bring their municipal laws in conformity with the provisions of Seventy-fourth Amendment by April 1994.

The CAA gave constitutional recognition to the local governments. It envisages ushering in of a regime of empowered and strengthened urban governance in the country. Through this amendment, the ULBs are guaranteed constitutional right to exist; they can no longer be kept superseded indefinitely. The Amendment created euphoria. It was said to be the harbinger of a new era of empowered system of urban local self-government; local government was said to be the 'third stratum' of government. It created new hopes for a refurbished system of urban self-governance with a new structure, additional devolution of functions, planning responsibilities driven by local political process, new system of fiscal transfers and empowerment of women and the

weaker sections of the society. It has appended a new Schedule of municipal functions (Twelfth Schedule) and provided for intra-city decentralisation in cities of more than three lakh population for bringing local governance nearest to the door steps of the citizens. It provides for constitution of State Finance Commissions (SFCs) every five years to review local finances and financial administration by the local governments and suggest fiscal transfers to the local governments. By amending the terms of reference of the Central Finance Commission, the CAA required the Finance Commission to suggest transfers to local governments as well. Devolution of additional tax authority to the local governments for addressing the existing mis-match between functions and sources of revenue was, however, left to the discretion of the SFC.

Looking back at the CAA and its efficacy in strengthening the ULBs, it has been at most a qualified success. It has definitely led to empowerment of weaker sections of the society, has largely rationalised the transfer system, prevented prolonged super session of the ULBs and has qualitatively changed the local political process. It has not yet succeeded in putting in place the instrumentalities conceived in the CAA for institution building and contributed to institutional capacity development of the ULBs.

Decentralization, however, still remains an unfinished agenda. The functional domain of the municipalities is still not clearly defined vis-à-vis the other levels of government and the casualties, in the process, are transparency, responsiveness and accountability to the citizens. The municipalities, moreover, are not adequately endowed with sources of revenue commensurate with their obligatory functions. Disparity in functions and finances result in unfunded mandates, which strike at the root of autonomy and efficiency of local bodies.

1.3 Urban Initiatives

The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) was launched in December 2005 to bring about

urban renewal with a focus on inclusive development of urban centres. The mission is the single largest initiative of the Gov-ernment of India for planned urban development that integrates the two pressing needs of urban India: massive investments required for infrastructure development reforms that are required to sustain investments. Further, the Government launched an initiative to strengthen the urban governance through the implementation of recommendations of 13th Central Finance Commission for urban local bodies (ULBs). The following section briefly overviews the two initiatives.

1.3.1 JNNURM

The JNNURM was launched on a mission mode for a period of seven years to bring about planned urban development in urban India. A review of JNNURM's performance for the past five years shows that states and ULBs differ significantly in availing their respective grants from the GOI for project funding.

Since the launch of JNNURM, 530 projects (valued at Rs. 60,212.20 crore) have been approved upto March 31, 2011. The Additional Central Assistance (ACA) released is Rs. 13,404.60 crore as against Rs. 27,940.86 crore committed. Lack of understanding and implementation capabilities with regard to the twenty-three reforms have been adjudged the major reasons for the inability of the states and cities to avail the grants. In fact serious handholding is required for some of the backward states.

An analysis of sector-wise distribution of funds released during (2005-09)[1] shows that water supply and sewerage attracted 78 per cent of the funds released in mission cities under Urban Infrastructure and Governance (UIG) component, and Urban Transport accounting for 21 per cent. In fact, urban transport received a major thrust under JNNURM. The central grants would be tied to certain reforms in urban transport to be implemented both by the state and the ULBs concerned.

In order to facilitate smooth flow of funds from the center

to the states and ULBs, the MOUD has identified certain complex reforms under JNNURM such as rent control reform, full cost recovery of O&M for solid waste through user charges, introduction of property tile certification system in ULBs, etc.

The Peer Experience and Reflective Programme (PEARL) is another programme under JNNURM for knowledge sharing on planning and implementation of urban reforms and projects. NIUA is the National Coordinator for the programme. As a part of the PEARL initiative, several workshops were held across the country for sharing and learning from experiences of similar knowledge sharing networks within India and other countries. "Documentation of Best Practices under JNNURM" was also initiated under this activity.

1.3.2 Status of Governance Reforms under JNNURM

JNNURM has certainly focused attention of the policy makers in all three tiers of the government on the challenges facing the cities and towns of India. It has succeeded in getting the state and city governments to commit to reforms in governance, but the commitments have not always been kept. States such as Maharashtra, Gujarat, Tamil Nadu, Karnataka, Andhra Pradesh and Madhya Pradesh have made good progress on governance reforms.

On an average, the progress on the implementation of the reform on 74th CAA has been rather slow. Many states have expressed lack of clarity on need for formation of Metropolitan Planning Committees. Many ULBs are not in a position to devolve all functions – e.g. urban planning including town planning. In addition, the devolution of funds and functionaries has not happened as expected.

In order to implement this reform more effectively, long-term support would be required along with clarity in the roles of development authorities, parastatals, and ULBs. Most ULBs do not have the capacity to take on city planning functions. Many are also not technically equipped to take on the functions. Wherever there are parastatal agencies like

development authorities, there is lack of clarity on roles of parastatal agencies and ULBs, thus giving rise to issues of coordination and accountability.

As far as Community Participation Law is concerned, Area Sabhas have not been created in most states and some have expressed the need for handholding for finalizing the draft bill. In Public Disclosure Law (PDL), the place, form, content and interval of disclosure need to be made uniform across ULBs and there is need for discussion with states to expedite the process of implementation.

Most states have expressed the lack of adequate base-line information to implement the reform on property title certification. In-depth understanding on operational issues is also required and hence there is need for discussion with states for handholding.

On an average, accounting reforms have progressed well in Andhra Pradesh, Karnataka, Tamil Nadu and Gujarat, where the initiatives towards transforming to double entry accrual based accounting system was taken prior to JNNURM as a state-wide initiative.

Reforms related to e-Governance have progressed very well in many states like Tamil Nadu and Karnataka. The main issue in this reform relate to lack of appropriate knowledge in the method of selection and appointment of software consultant accompanied by procedural delays. Peer learning within the state has also reaped benefits.

1.3.3 Thirteenth Central Finance Commission

The Thirteenth Finance Commission has recommended nine conditions for the State Governments qualifying for grants. These are Supplement to Budget, Accounting (audit) Reforms, Local Body Ombudsman, Levy of Property Tax without Hindrance, Qualification of SFC members, Electronic Transfer of funds, Service Level Benchmarking, Constitution of Property Tax Board and Fire Hazard Response System. Twenty-six states have sent their status report on compliance. Most of the states have shown their willingness to comply with all the nine recommendations to avail the performance

grant for the year 2011-2012. Also, about 1600 ULBs across the country have introduced service level benchmarking. Over 11 states had implemented all nine conditions by March 31, 2011.

1.3.4 Linking Reforms under JNNURM and 13th CFC

The implementation of the reform agenda under JNNURM and the mandatory reforms/conditions stipulated by the 13th CFC to access the performance grant would contribute to improved urban governance. Table 3 gives a comparative picture as to how the reforms initiated by the 13th CFC and JNNURM contribute towards achieving good urban governance in the country.

Table 3: Reforms under 13th Central Finance Commission and JNNURM

	13th CFC	JNNURM
Sustainability	Governance reforms Accounts and Audit Reforms Benchmarking Service Provision	Assigning or associating ULBs in service delivery Levy of user charges Rainwater harvesting Waste water reuse
Subsidiarity	Assigning or associating ULBs in service delivery Integration of Cantonment Plans in CDP Support to Fire Services Capacity Building of Local Fund Audit Department Promotion of Public Private Partnerships	Associating or assigning ULB in service delivery Promotion of Public Private Partnerships
Equity and Efficiency	Benchmarking Service Provision Local Body Ombudsmen Accounts and Audit reforms	Rent Control Law Repeal of ULCRA e-governance Accounting reform Earmarking developed land to poor Administrative and Structural reforms
Transparency/ Accountability	Budget supplement on ULBs to Legislature Publication of Benchmarks in State Gazette Local Body Ombudsmen	Public Disclosure Law Assigning or associating ULBs in service delivery

	13th CFC	JNNURM
Civic engagement	Finalization of benchmarks through consultations	Community Participation Law
Security	Service improvements through benchmarking process Fire hazard response and monitoring system	Basic Services to Urban Poor Property Title Certification System

Source: Prasad, D. Ravindra and Chary, V. Srinivas, "Thirteenth Finance Commission and Urban Local Bodies: Towards Good Governance in India", Urban India Journal, Jan-June 2010.

1.4 Way Forward

It is about six years now that JNNURM has been launched. There have been efforts to introduce reforms, which would sustain the investments made in critical infrastructure in years to come. Despite the strong focus on urban reforms, many ULBs, especially those in the backward states are yet to develop themselves as efficient city managers. Handholding of these states and ULBs on reforms like improved property tax administration, fixation of appropriate user charges, use of land as a resource, introduction of e-governance, PPP and improved service delivery is essential to improve the financial sustainability of ULBs. In fact, such conditionalties have also figured in availing grants from the 13th CFC. It must be recognized that along with additional funds, there is need to improve areas like technical assistance, capacity building, centres of excellence, e-Governance, peer learning, etc. to sustain the growth achieved in the recent past.

Notes:-

1. Kundu and Samanta (2010),: Redefining the Inclusive Urban Agenda in India: A Critical Appraisal, *Economic and Political Weekly volume XLVI No 5, January 29*, 2011

Swati Ramanathan and Ramesh Ramanathan

Public-Private-Partnership in Urban Infrastructure: Addressing Governance Gaps

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Section 1: The need for PPP in Urban Infrastructure

Urban infrastructure

The typical definition of Urban infrastructure comprises urban water supply (including all three aspects of source augmentation, transmission and distribution systems); sewerage; storm water drains; solid waste management; city roads and street lights. Increasingly, additional items are being included in the broad umbrella term 'urban infrastructure' – these include mass transport systems, and most recently, affordable housing. Except for the last item in the list, all other aspects are classic public goods, and hence are the obligation of government to ensure that these are delivered to citizens. While the issue of affordable housing is increasingly receiving attention, and several policy initiatives are on the anvil, this is a subject where clarity on public versus private, and the role of the state is yet to be clearly determined.

For the purposes of this paper therefore, we have restricted our attention to the items of urban infrastructure that are more classically accepted as urban infrastructure.

The demand for urban infrastructure

With the steady trend of growth of Urban India, which is expected to continue and move from the current 30% to 50% in the next two decades, the pressure on providing urban infrastructure has increased on governments. this implies an additional 300 million people that will live in India's cities by the year 20xx will need to be provided with all the items of urban infrastructure described above. There will be enormous challenges placed on our government machinery to deliver sufficient infrastructure to meet the existing and anticipated demands. These challenges include:

1. Finances: For the first time in decades, detailed estimates for various categories of urban infrastructure described have been prepared by the High Powered Expert Committee (HPEC) constituted by the Ministry of Urban Development. The committee estimates that the total requirement for urban infrastructure over a 20-year period ending 2032 will be 39.2 lakh crore, measured in 2009-10 prices. In addition, the committee estimates an additional 19.9 lakh crore for operations and maintenance expenditures, over the same period. These demands are multiples of any public spending that has been made by union/state/urban local governments for urban infrastructure in India's history. The largest urban initiative so far, JNNURM has a total allocation of Rs 1 lakh crore over a seven year period, barely 2% of the annual requirements as per the projections.

Given the multiple claims for public funds for a variety of infrastructure items required for India's development – highways, ports, power etc. – not to mention the social infrastructure requirements of education, healthcare and social security programmes, it is unlikely that public funding alone will ever be sufficient to meet the mammoth needs for urban infrastructure spending in India.

However, while finances are a major constraint, they are not the only constraint hampering the delivery of urban infrastructure. Other issues include:

2. Human capital: Availability of the necessary technical and managerial skills within government – at all levels, but most critically at local government levels – is seriously limited. This is somewhat of a hard constraint, given the archaic cadre and recruitment rules that government agencies have to follow, to recruit, retain and upgrade suitable manpower.
3. Innovation: the compressed timelines within which such vast quantities of urban infrastructure have to be created require innovations in technology, materials, production and cost-effectiveness. all these aspects require R&D investments that can be first incubated through trial and error and then brought to market. this in turns requires an entrepreneurial approach that is best found outside government.

The need for PPP in Urban Infrastructure

These factors of finances, human resources and innovation all point to the need to bring private sector partnership into the building of India's much needed urban infrastructure. Market players can access the necessary funds, attract suitable talent and experiment with innovation. Hence, the case for private participation in urban infrastructure is strong. However, given the public nature of the infrastructure being created and the role of the state in setting prices and ensuring visibility of revenue streams to private players, these endeavours cannot be thought of as privatisation, but rather as public private partnerships for urban infrastructure creation. The benefits of market-based approaches will need to be balanced by the need for suitable checks and balances in how governments engage with private players, ensuring that equity and transparency are always kept as primary considerations.

The role of government therefore is to enable private participation in urban infrastructure so as to harness the capital, innovation and execution capabilities of the market, while ensuring that there is a rigorous regulatory environment to ensure that fairness, equity and transparency

are preserved, to protect against the excesses that an unbridled market-based approach can result in.

Experiences in PPP in UI in India

The embrace of the PPP model in urban infrastructure has seen a tentative beginning over the past decade or so. there have been sporadic successes of PPP-based projects, and these numbers are gradually increasing.

With the increasing discussions about PPP in urban infrastructure, there seems to be increasing conceptual comfort in the use of PPP-based models for providing urban infrastructure. However, this has not yet translated into large increases in successful PPP projects. This is because successful PPP projects require several operational issues to be addressed – the structure of the project; the ownership over the assets being created; the payment/revenue streams from the project; operations and maintenance responsibilities; roles and responsibilities of the counterparties; exit clauses, and so on. These operational issues will change by the sector in which PPP is being attempted –from water supply to mass transport systems to waste management sites. Creating a code of accepted practice on such operational details requires a large pool of potential projects in each sector, so that standardised parameters get created for all projects in a given sector. Establishing such codes will take time, and continuing effort and energy by government and private sector players. This experience will be no different from the evolution of PPP projects in other infrastructure sectors like power, highways etc.

Such efforts at establishing common practices etc have already begun. Examples of these include a small but growing list of PPP projects supported under JNNURM and other state-government mechanisms such as TNUDF and KUIDFC'; the publication "Toolkit for analysis of Urban Infrastructure Projects for Public-Private-Partnerships under JNNURM" released by the Ministry of Urban Development; workshops on PPP in urban sector organised by DEA, Ministry of Finance in collaboration with ASCI, etc.

Hence, it is safe to say that while the pool of PPP projects in urban infrastructure in India is small currently, there is increasing consensus on the importance of PPP-based projects, and growing attention on the operational aspects of successful PPP projects.

Addressing systemic issues

However, it is our opinion that this trend, while necessary, will not be a sufficient one to ensure successful PPP projects on the scale and size required for Urban India. This view is based on the belief that it is not enough to focus only on operational aspects of PPP – these are 'tactical' issues. There are deeper, systemic issues of urban governance and institutional clarity that need to be addressed – these form the foundation not only for the success of PPP projects, but also for urban processes in general.

Section 2 discusses the importance of addressing these structural issues.

Section 2: PPP and Governance

There are two arguments to locate PPP projects and ideas within a larger framework of urban governance and democratic institutions – one to do with improving the viability of PPP projects themselves; and the second to do with locating PPP within the larger idea of governance and democracy.

Improving the viability of PPP projects

The first of these arguments has to do with the success of the PPP projects themselves – that ignoring the underlying governance issues actually undermines the PPP project in a variety of ways: either rendering it unviable to begin with so that the project is a non-starter; or grounding a PPP initiative to a halt half-way through the process; or, alternatively, eroding a project's long-term success thereby making it a failure for all stakeholders – government, private party and citizens.

Three examples of the kinds of governance and institutional challenges that PPP projects face are provided below, followed by a general discussion on these issues.

Example 1: PPP for a Metro Rail Project

Given the capital intensive nature of Metro projects, there are three sensitive aspects that the success of any metro project is dependent on:

Maximising ridership: the catchment area of any metro rail is around its stations. Given that only a limited pool of potential riders can be within walking distance of stations – say a radius of about ½ km – this restricts ridership to a very small percentage of the population, between 5 – 10%. This renders the economics of the metro unviable. Hence, stations have to become accessible hubs, both at origin and destination points, a goal that is best achieved by having feeder systems that bring passengers to stations through local bus services etc. However, these bus systems are operated independently by local or state transport departments, who view the metro as a competing mode of public transport and therefore have little incentive to provide such feeder services. Addressing this challenge requires a variety of institutional issues to be addressed: revenue sharing, common ticketing and fare sharing systems, route planning etc. This means that a fair amount of institutional integration needs to be established ex-ante, before the metro project gets on the ground. This kind of integration need was the genesis for the formation of the Land Transport Authority in Singapore. Absence of these inter-institutional integration is a major governance issue, which hampers the long-term viability of the PPP project.

Extracting value from land use around metro stations: One other source of incremental revenues that arise from a metro rail project is the opportunity to capitalise on the attraction and convenience of being located close to a metro station. This is generally done by increasing density through FSI (floor space index) and modifying land use around metro stations for retail and commercial purposes. Three specific sources of revenues can potentially accrue to local

governments: higher property taxes from the increased number and mix of properties around the station; higher stamps and registration charges from land transactions around the station, due to higher land valuations; and benefit charges levied on those properties closest to the station. These revenue flows all accrue to institutions other than the metro operator (ideally, they should all accrue to the urban local body (ULB), but in India, the ULB receives only the property taxes). It is reasonable to have a revenue sharing arrangement between these local governments and the metro operator, but such arrangements require suitable institutional protocols to be established well in advance of the metro rail project being put out for PPP bidding, since a private operator needs to have visibility into these revenue streams in order to factor these into their economic models. When there is a larger potential pie that can be created, there needs to be win-win solutions that get established for all parties concerned, else the pie itself never gets really created. Current practice is that ULBs are rarely involved in metro rail PPP discussions, with all matters being decided at the state government level, reducing every item to a silo-based decision-making process. This challenge of empowering and enabling local governments to engage in urban infrastructure creation, hampers the economics of the project right from the conception stage.

Completing land acquisition processes efficiently to shorten project gestation

One of areas of enormous delay in metro projects (for that matter, most urban infrastructure projects) is the delay caused due to land acquisition issues. An important meta issue to note here is that the authority to acquire private land for a public purpose needs to be exercised with care, since it is a draconian power. Assuming that the case for the larger public good has been made and communicated effectively by government to the public, there are two specific operational issues that bog down land acquisition for metro projects: the first is to do with equitable compensation for land owners; and the second is the verification of land ownership. Given

the paucity of public funds, the use of new instruments such as TDRs (Transfer of development rights) is an attractive compensatory instrument. However, there is a whole enabling ecosystem that needs to exist for the effective utilisation of TDRs, both for government and those being compensated with TDRs. The second point of poor verification of ownership has to do with the absence of land and property title systems in India. Both these are fundamental policy issues related to governance, and both will take independent effort and time to put in place – and their absence causes enormous project delays and cost escalations, and citizen unrest to boot!

Example 2: PPP for Landfill site for Solid Waste Management

Any successful PPP in landfill sites needs to address several challenges. From a governance standpoint, three of these challenges are highlighted below:

1. Economies of scale:

The economics of a landfill site are directly related to the quantum of waste being brought to the site, for scientific treatment and disposal. While this should not be an issue for most mega-cities, given the scale of urban population in these cities, this is a significant challenge for the smaller urban bodies. It is often noted that ULBs scramble to ensure that they deliver a "minimum" quantity of waste on a daily basis to the site, just to ensure adherence to predefined metrics. While a logical solution to this would be to pool the requirements of multiple of local bodies, the institutional context for this is currently missing. The requirements under the 74th Constitutional Amendment for a District Planning Committee/Metropolitan Planning Committee as a regional platform would serve as the appropriate institutional mechanism for such pooling decisions to take place. Unfortunately, few state governments have implemented effective DPC/MPC structures. Many state governments have in fact left ULBs out of the decision on the landfill PPP projects, leaving them to deal only with the primary and secondary collection issues. The absence of a clear structure for the pooling of ULB waste needs, and an institutionalised

system for contracting and conflict resolution weakens the viability of the PPP project.

2. Site location:

The actual allotment of land for the location of the landfill site is invariably a charged issue, with state political and administrative leadership delaying the choice until well into the process, and not consulting the local bodies in the region. As a result, the decision on the final location of the site comes well into the PPP process, and is accompanied by grass-root resistance from the local body and residents in whose jurisdiction the site has been chosen to be located. This is an issue that also blurs the urban-rural boundaries, where the urban is the generator of waste and site locations invariably tend to be in the surrounding rural/semi-urban periphery of the city.

The entire process of site location is a classic case of NIMBY – not in my backyard – a phenomenon that invariably plays out the world over on the issue off landfill sites. There are clearly enormous implications for the local body and residents of the area affected, including direct economic impact – for a farmer, the impact is on produce etc; for an urban resident, the impact is on land prices.

The only response to this is to engage fully in the political process of negotiation and consensus building. This again requires a suitable platform that has got legitimacy and political value – the DPC/MPC structures, if properly empowered, can act as such platforms, ensuring that there is due process being followed, and adequate compensation / mitigation being provided to the affected local body, urban or rural.

3. Planning and environment

A decision to improve the economic viability of a landfill by pooling the interests of multiple local bodies has a commensurate demand that it places: the need to strategically locate the landfill site in such a manner that it meet the transport needs of all the local bodies that are participating in the project.

A second and equally important issue is related to environmental considerations for the location of the landfill site. There will be long-term effects of landfill sites, despite the best of structural safeguards. Hence, sites must be so chosen as to ensure that there is no damage being done to the soil, groundwater resources and local ecology.

Both these aspects require a robust regional planning process to be in place, so that a full-fledged regional plan (district plan or metropolitan plan) is in place, well before the specific decision on a PPP project for a landfill site is taken. Such regional planning processes are not done just for the sake of landfill sites, and need to be ongoing, institutionalised exercises, so that project-based decisions can be taken up in a more systematic and holistic manner.

The arguments related to pooling, site location and planning are all inter-related, and call for the need for a regional approach: institutional mechanisms like the DPC/ MPC to be in place, mandated with the authority and staff to produce regional plans, giving all local bodies in the region a collective platform that they can engage in to resolve their inter-dependent issues. putting together such a governance architecture takes time and political will. the absence of such a structure has debilitating effects on PPP projects like the landfill waste project that has been described here.

Example 3: PPP project in water supply

Water supply projects are fraught with many challenges, as potential candidates for PPP projects. While many of these challenges are related to technical aspects of the project, there are also many issues related to governance. Some of these issues are described below:

1. Equity and user charges:

Given that water is a public resource, and the right to water is a fundamental right, the use of private sector operators in any aspect of the water supply delivery process is one that needs very careful deliberation and discussion before projects are taken up. Arguments of bringing in the

private sector for reasons of efficiency and technical competence, while possibly valid, will not be enough, unless fundamental issues are addressed about how the public nature of water, and the public interests associated with it, are comprehensively addressed.

One specific issue with respect to this point is to do with pricing of the water service, and how this will ensure equity in access to water. There are several possible solutions to this query, such as free supply to a predefined baseline, and progressive pricing above this baseline, but there are enough international examples of PPP projects that have either not adhered to these stipulations consistently, or violate them blatantly.

The most consistent, and sustainable way to address these issues is to ensure that there is a systematic form of citizen participation in issues related to equity and user charges, where information is shared with the public. However, this requires that there is a process of participation that allows the actual affected citizens to participate in the decision-making, rather than the process being hijacked by intermediaries like NGOs, however well-intentioned some of them might be. Ultimately, decisions about pricing are political choices, to be made by elected representatives and voters – all others must only be enablers to the process.

Leaving aside the governance argument, even enlightened self-interest on the part of the government and private sector participant should suggest that failure to ensure genuine participation in a comprehensive way can seriously affect the economics of the PPP project, if not at origin, then along the lifecycle of the project.

1. Boundary conditions of the project: Given the vast variety of PPP project types in terms of asset ownership, management, maintenance etc, it is critical that water supply PPP projects define the boundary conditions of each project, and make these outcomes transparent, and allow for debate and consensus before the project is taken up. Specific sensitive issues relate to the rights over the water source, the ownership of the assets being created

in the project, and so on.

2. Unanticipated issues and dispute resolution:

One of the biggest issues in creating PPP in water supply projects is related to unanticipated issues that arise after project commissioning. While this is true in any PPP project, the heightened sensitivity when it comes to water issues demands that any dispute resolution process is not only transparent, but also done in an arms-length manner, preferably via a regulatory mechanism which has sufficient citizen representation on it.

The collective implication of these issues related to equity and user charges, project contours and dispute resolution, is that very robust governance processes need to be in place, specifically related to participation and transparency. Any attempt to rush through a water supply PPP project can result in the project either not taking off, or enormous delays and sub-optimal outcomes after the project has been sanctioned. Hence, it is in the interest of those desiring successful PPP outcome that the governance issues are carefully addressed, and due process is followed. This would result in a substantial portion of time spent on building consensus before the project is finalised, but will by the same token ensure that the project execution and long-term viability will be much more robust and predictable.

Summary

Each of the three examples cited above highlights the significant dependence that PPP projects have on governance systems and processes. These examples serve to highlight the case that governance and institutional issues need to be addressed even when seen through the somewhat tactical and limited prism of project viability and success. However, there is a second argument for governance, not just as a means to a PPP end, but more importantly, as an end in itself.

Locating PPP in the larger context of governance and democracy

The second argument to locate the concept of PPP within

a governance context is more fundamental: that nothing about a PPP project should undermine the essential fabric of our democracy and our public institutions. At the end of the day, PPP projects are dealing with the delivery of public goods which are ultimately the responsibility of democratically elected governments. In addition, given that these PPP projects are to do with urban infrastructure, these are local public goods and hence the need to respect the concept of the federal structure, including the primacy of urban local bodies in delivering local goods and services. This is an especially sensitive point because in India, given that the federal structure of our polity has not yet matured, with the result that we are still in a transition mode with several governance challenges still needing to be addressed. Even separate from the discussions on PPP, these governance challenges are enormous, but are critical to be addressed.

In this context, PPP projects not only need to be cognisant of this somewhat tenuous governance fabric, but also of the various initiatives being undertaken to strengthen it. Hence, we cannot have a left-hand/right-hand phenomenon taking place – that even as one part of our policy-ecosystem is looking to strengthen decentralisation, another part of the same policy ecosystem is developing PPP projects that undermine these very same initiatives that seek to strengthen our federal structure. Examples of this include: the recommendations on district planning by the Planning Commission; the recommendations of the 2nd Administrative Reforms Commission on Local Governance; the 13th Finance Commission recommendations, and finally, the flagship mission for urban development, JNNURM itself! it would be inappropriate if one arm of government was seeking to strengthen decentralisation and democracy, while another was promoting PPP structures without the same intent.

Another critical area related to governance is that of participation. Given our weak federal structures, India is still fraught with extremely weak systems of local accountability - no PPP initiative should increase the accountability distance to the citizen. A related point here is that while PPP projects

bring in a market-based approach, they cannot reduce the "citizen" who is an active participant in a democracy especially at local level, to a "client" who is a passive recipient of goods and services. In our experience, we have time and again seen senior policy makers and private sector participants relegate citizen participation to a 'romantic' notion of far less importance in the context of the other 'complex' technical and financial aspects of the project. Hence, the top-down view is that citizens can be co-opted through trivialised systems of last-minute pseudo-consultation processes that end up not only NOT creating genuine ownership and participation among the affected citizens, but actually generating opposition to the project.

Therefore, the second argument about governance is that no model of PPP in local public goods should dilute or subvert the process of deepening governance and democratic processes of decentralisation.

Threading the needle

The challenge with bringing in the governance dimension to the PPP discussion is that governance solutions tend to take longer to implement. A 'technocratic' view of the extended time taken is that these are delaying the project, whereas in actuality, given that at their heart these are political processes, they often reflect the complex process of consensus-building. Unfortunately, what we are witnessing in India is one of two extreme views: either completely short-circuit the governance issues by finding band-aid institutional fixes; or get completely bogged down in addressing governance issues, thereby not recognising the pressing need for infrastructure creation and bringing in private sector participation. The biggest challenge is therefore to not be entrenched in either point of view, but find a practical way to navigate the middle-ground: recognising the need to deepen governance issues, while enabling PPP processes simultaneously.

Section 3: A Governance Framework for PPP in Urban Infrastructure

The previous section makes two arguments for looking

carefully at governance when considering PPP projects in urban infrastructure: the first, as a means to an end of better PPP projects, and the second, as an end in itself, that improved governance is at the heart of a robust democracy and strong public institutions.

It is easy to make these statements as theoretical constructs, and leave out the really hard part - the implementation of these principles in the messy world of multiple governmental agencies, hundreds of daily emergencies, weak capacities in local bodies, stressed finances, political bartering and territoriality, greedy private sector players who are looking for governance vacuums to exploit, etc. All this in the face of an urbanisation tsunami where an additional 300 million people will join their urban cousins in the already teeming cities and towns of India, all pressing for improved urban infrastructure. Faced with these demands, it will take strong-hearted leaders – politician or administrator – to say that they want to address systemic governance issues, especially when there seems to be little political capital to gain by undertaking long-dated reforms that will pay-back only in the next term. It seems far better to settle for short-cuts and solve problems in what seems the easiest possible way, like setting up yet another special purpose vehicle, or para-statal entity, which has no sunset clause, and will be part of the future institutional maze for the next project's governance challenges.

Notwithstanding these challenges, there will be few who will argue that the governance related issues should be ignored. What might be useful is to have a normative framework to evaluate governance aspects of PPP projects

A framework for governance

The operative term needs to move from "managing" a city to "governing" a city, because this not only encompasses the function of managing but also locates it in a larger context. The problems of urban governance in a city's larger metropolitan region are not trivial. There are technical issues, such as urban planning, design and management of mass

transport systems, and access to such resources as water and power along with their pricing and distribution. There are public finance issues of ensuring that the local bodies in the region get access to the resources they need to provide services of acceptable quality. There are regional issues too, as described earlier: how does a city relate to the larger region in which it is located and the other local bodies in the region, and how can the relationship between these be managed?

It is this perspective that can be called "Urban Governance" : analyzing a city's problems through this prism of institutional arrangements and deeper issues helps to answer the more complex questions, and offer answers that – while their implementation may take time and political will, technical competence and administrative skill – are the ones that will result in long-term sutainable improvements to quality of life in the city.

A framework for thinking about urban quality-of-life can not only capture the day-to-day operational issues, but also addresses these in the larger context of urban governance. The challenge is to design institutions that can deal with all of these complex issues yet be close enough to the citizen to provide local public goods effectively. Moreover, this needs to be done in a way that deepens democratic processes. Residents of our cities are not just consumers or producers of goods and services, but citizens who bring energy, vitality, and ownership to their city.

The REED Framework

REED is an acronym for four defining aspects of urban governance – a Regional perspective to urban issues, Empowered citizens and local governments, Enabled citizens and local governments, with Direct accountability of the government to the people. REED addresses issues relating to systems, processes and the institutional framework with respect to governance. While the REED aspects of governance are mostly invisible in providing residents with an improved quality-of-life, it is in fact only when all four pieces of REED are put in place, will we have a complete governance eco-

system to sustain any improvements to the governance of our cities. Following is a quick snapshot of REED framework with illustrative examples that show how the REED systems approach can solve India's urban challenges:

1. R - Regional Perspective

The first element of REED framework stands for taking a Regional perspective when looking at urban challenges. Problems of urbanization cannot be looked at in isolation. The city is always a part of a larger region with many interconnections. In India, the district in which the city or town is situated is normally considered as the region. The rural hinterland surrounding most Indian cities is an important part of the city landscape as well as its economy.

This requires taking a regional perspective to almost all aspects of urban planning and governance. For example, transportation planning for the city must be done taking developments in the sub-urban and regional areas into consideration. Planning for solid waste management and its infrastructure (transfer points, landfills etc.) needs to be done with development pattern and ecology of the entire region in mind.

2. E- Empowering Local Governments and Citizens

Within the District or Metropolitan Region, there are many local governments – corporations, and municipalities. There needs to be full decentralization, devolution of state functions and the restructuring of local bodies and para-statal organisations, so that these local governments are empowered to solve the problems in their respective jurisdictions.

The 74th Constitutional Amendment dealing with urban decentralization lists out 18 functions (including urban planning, water supply etc.) to be carried out by urban local bodies. But some of these functions continue to be played by state government through para-statal agencies. This has resulted in a fractured set of responsibilities for the urban local bodies, severely constraining their efforts in providing a good quality of life to urban citizens.

Another important facet of this second element of the REED framework is empowering citizens. The roots of democracy in urban India need to be deepened by giving a formal voice to urban citizens in local decision making. A formal platform for citizen participation, called as Area Sabha, at a polling booth level is not just desirable but essential for urban governance to be effective and responsive to the needs of citizens, and the passage of a Community Participation Law is a mandatory reform condition under JNNURM.

3. E – Enabling Local Governments and Citizens

Empowering the local governments with necessary functions is necessary but not enough. In order for the municipalities to perform their functions effectively, they need to be enabled with the right kind of resources – suitably qualified and skilled human resources, sufficient financial resources, and management support systems like modern technology tools such as GIS, ERP systems etc.

Adequate and capable human resources are essential for any service agency to fulfil its obligations. India has an acute shortage in the number of urban planners – one for every 100,000 urban residents as compared to one for every 5000 urban residents in USA. Even for the existing planners and urban professionals, capacity building is the need of the hour and urban management sector needs to be strengthened.

The poor financial state of Indian cities is not just an outcome of poor federal and state allocation, but also due to poor municipal revenue collection. Most Indian cities have leveraged only a fraction of their potential to collect property taxes, and struggle with revenue collection for basic serves such as water supply, garbage collection etc.

Cities also need access to modern tools and technology of urban management in order to respond to the complex challenges of rapid urbanization. For example, GIS (Geographical Information Systems) is a very powerful and most commonly used tool by urban managers across the world. However, as we will see in the next chapter, there is very little usable GIS data available for any region in India,

both at the macro level and at the micro neighbourhood level. Similarly, while many urban local bodies in India have migrated to double-entry accounting systems, this has not been fully embraced, with regular audited financial statements, service-level benchmarking and established credit rating mechanisms, all of which are essential for modern day financial management.

As with local governments, citizens also need to be enabled with platforms, skills and tools to participate effectively. Citizens need tools that help them objectively assess the performance of their local governments and their elected representatives in order to take collective action.

4. D – Direct Accountability

The final element in the REED framework stands for Direct accountability. One of the arguments that is often made in India against decentralisation is the risk of increased corruption – more number of local elected representatives, each of whom wants to extract rent for their political survival. While this argument has merit, the response is not to slow down the process of decentralisation, but to carry it to its logical conclusion – which is to empowered and enabled the local governments, but simultaneously make them accountable in a very rigorous manner to the citizens directly.

Such direct accountability can be achieved through certain institutionalised mechanisms: first, by having inclusive and formal platforms of citizen participation such as Area Sabhas, which are essential for citizens to engage with their local governments on an ongoing basis and demand accountability. Here, participatory budgeting is a good tool for prioritization of issues by city stakeholders based on local needs.

A second instrument of accountability is the Public Disclosure Law, as required under JNNURM. In this law, urban local bodies are expected to release quarterly audited financial statements of performance to the public, and also release information on key Service Level Benchmarks for services like water supply, drainage, solid waste management

etc. The Public Disclosure Law is an extension of the Right to Information Act, in that it moves from the citizen asking for information, to the local body disclosing information in a suo moto manner.

Taken together, the REED framework offers a comprehensive framework of urban governance, which looks at the meta-issues of urban reform, while acknowledging the day-to-day challenges being faced both by citizens and those within government. REED also locates the solutions in a democratic context, thereby ensuring that solutions to our urban problems can result in deepening of democratic processes, even as they improve the quality of the visible aspects of urban quality of life.

The REED framework can act as a diagnostic of what needs to be done to improve the quality of urban governance from the perspective of PPP projects. The next section applies selected relevant elements of the REED framework to a set of sample PPP projects, which have been highlighted in the Ministry of Urban Development's toolkit on PPP. Table xxx below highlights the status of each of these projects with respect to each of these governance issues, and highlights the need to continue to strengthen many governance issues in our PPP projects.

Evaluation of PPP projects

Note: (these projects are taken from the Ministry of Urban Development's Toolkit for PPP In Urban Infrastructure, available at www.jnnurm.nic.in/nurmudweb/toolkit/10.ToolkitPP.pdf)

Box 1 - 24x7 water supply in Karnataka Towns

A management contract for 24x7 water supply in pilot zones in three towns (Hubli-Dharwad, Gulbarga and Belgaum) was awarded in April 2005. The private operator is responsible for rehabilitation, O&M of the water supply system. The assets and staff continue to remain with the ULB. The private operator will improve the quality of service against a fee based contract. Tariff revision is the

responsibility of the ULB and would be taken-up only after demonstration of service improvement. The pilot zones serve close to 20,000 households. The quality of service has improved and two out of the three city corporations have passed resolutions for extending the service to other areas.

Box 2 - Cost savings through PPP in SWM – Surat/Rajkot

Cities such as Surat and Rajkot have used private sector in all aspects of SWM and achieved significant reductions in cost of service. In the initial set of contracts, private parties were engaged for collection and transportation of garbage and were compensated on per ton of waste brought to the landfill site. Competition between service providers resulted in lower cost for the ULB in the subsequent years. The contract mechanism has continuously evolved to ensure better value for money. The payment terms have moved from per ton to per trip and per collection point to ensure that the private service provider provides effective service.

Box 3 -Development of Bus Terminal in Uttranchal

The Mussoorie-Dehradun Development Authority (MDDA) awarded the development and O&M of an ISBT in Dehradun in 2003 to a private developer. The ISBT will also have commercial area that will generate revenue. The contract is a 20 year concession agreement extendable by another 10 years. After the initial moratorium of 4 years, the developer will pay Rs. 81 lakh every year to the MDDA. The developer is also responsible for maintenance expenditure. At the end of the concession period, both ISBT and commercial area will revert to MDDA. The ISBT became operational in June 2004. The project has enabled the city to get a "state-of-the-art" bus terminal with very little up-front investment

Box 4 -Energy efficiency in Street lighting Bangalore

Bangalore Development Authority (BDA) executed a PPP project through an Energy Service Company (ESCO) which was responsible for developing, installing and maintaining an energy efficient street lighting system in 2005-06. It involved developing a system that adjusted the illumination levels on

the road according to time of day and traffic load. The energy savings was almost 50% compared to the earlier scenario. The savings is also sufficient to recover the initial investment in a few years. Similar savings were achieved by Vadodra and Nashik through the use of energy efficient technology for street lighting

Box 5 - Desalination Plant in Chennai

Chennai Metrowater (the water utility in Chennai) has awarded a contract for a 100 MLD desalination plant under Design, Build, Own, Operate and Transfer basis to a consortium of Indian and Spanish Firms. The project would be undertaken by an SPV owned by the consortium. There are separate contracts for EPC, O&M, land lease and provision of stores and consumables which clearly delineate the roles and responsibilities of various stakeholders. Chennai Metrowater is the bulk consumer of water and the SPV has a bulk water purchase agreement with the water utility. The responsibility for un-interrupted power supply is with the GoTN. To ensure sufficient security of payments to the contractor, there are three security mechanisms viz., escrowing of identified customer receivables, state support agreement and a threemonth revolving letter of credit.

Box 6 - Alandur Sewerage Project

A comprehensive project for developing underground sewerage system was prepared in 1996. Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL) was given the task of project preparation. It identified risks relating to construction, O&M, demand, payment as well as time and cost overruns. The local body undertook continuous consultation with the public to assess the demand and desire to take connections. Almost 25% of the project cost was to be financed through citizen contributions. To address demand risks - up-front contributions were raised from the citizens and first utilised in the project. To minimise the construction risks and coordination problems, all three components – underground sewerage network, pumping stations, and treatment plant were awarded to a single BOT operator.

Payments were structured in a manner that encouraged simultaneous completion of all components. The project was commissioned in July 1999 and once cost details were available, the ULB imposed a monthly charge of Rs. 180 per month to cover O&M and debt servicing charges.

Table 1 Discussion

Table 1 above evaluates each of the sample PPP projects along a set of key questions arising out of the REED framework. The total list of governance queries along each category of the REED framework are as follows:

Regional :	10
Empowered:	4
Enabled:	3
Direct Accountability:	3
TOTAL :	20

As can be seen, the largest number (50%) of governance queries are related to the Regional category. at one level, this makes intuitive sense – it is hard to develop a governance framework without first beginning at the institutional mechanisms at the regional level, and then taking this to the grassroots level, including those queries related to citizen participation.

It is useful to note a few points here before a discussion of the outputs of the table takes place.

— Each of these PPP projects is an example of some measure of successful outcomes, as seen within the specific parameters of technical implementation. Such technical parameters are not being used here to assess these projects, since the focus of this assessment is not on these technical parameters. Instead, the focus is on the governance-related aspects, as discussed in the earlier section.

— The argument being made is that governance-related aspects are often overlooked, even when looking at technically successful PPP projects

Table 1.

Category	Item	Specific Issue	PPP PROJECTS					
			24x7 water supply in Karnataka Towns	Cost savings through PPP in SWM – Surat/ Rajkot	Development of Bus Terminal in Uttranchal	Energy efficiency in Street lighting Bangalore	Desalination Plant in Chennai	Alandur Sewerage Project
Regional	Is there a regional body for collective decision-making on PPP projects	Metropolitan Planning Committee/District Planning Committee	No	No	No	No	No	No
	Is there a regional body for an integrated approach to transport-related issues for PPP projects	Unified Metropolitan Transport Authority	No	No	No	Yes	No	No
	Is there a regional body for an integrated approach to environmental issues for PPP projects	Unified Metropolitan Environment Authority	No	No	No	No	No	No
	Is there a regional body that collects data on inputs/outcomes that can be available for PPP projects	Directorate of Metropolitan Economics and Statistics	No	No	No	No	No	No

Category	Item	Specific Issue	PPP PROJECTS					
			24x7 water supply in Karnataka Towns	Cost savings through PPP in SWM – Surat/ Rajkot	Development of Bus Terminal in Uttranchal	Energy efficiency in Street lighting Bangalore	Desalination Plant in Chennai	Alandur Sewerage Project
	Is there a regional body that serves as a Spatial data repository, that can be available for planning and mgmt of PPP projects	Metropolitan Spatial Data Centre	No	No	No	No	No	No
	Are there existing plans that can be the basis for developing and implementing PPP projects, and is the PPP project coming out of/ linked to the plan	Metropolitan/District Development Plan	No/No	No/No	No/No	No/No	No/No	No/No
		City level Master Plans	Uncertain/ Uncertain	Uncertain/ Uncertain	Uncertain/ Uncertain	Yes/No	Uncertain/ No	Uncertain
	Are there enabling legal provisions for successful implementation of plans and PPP projects	Laws related to land use and planning	Yes	Yes	Yes	Yes	Yes	Yes
		Laws related to land title of ownership and extents	No	No	No	No	No	No
		Robust Plan Enforcement System	Partial	Partial	Partial	Partial	Partial	Partial

Category	Item	Specific Issue	PPP PROJECTS					
			24x7 water supply in Karnataka Towns	Cost savings through PPP in SWM – Surat/ Rajkot	Development of Bus Terminal in Uttranchal	Energy efficiency in Street lighting Bangalore	Desalination Plant in Chennai	Alandur Sewerage Project
Empowered	Is the ULB fully empowered to participate in relevant PPP projects	Transfer of all functions listed under schedule XII in 74th CAA to ULBs in the MA	Partial	Partial	Partial	Partial	Partial	Partial
		Accountability of Para-statals to ULBs	No	No	No	No	No	Yes
	Is there a grievance redressal/ conflict resolution system	Office of Urban Services Ombudsman	No	No	No	No	No	No
	Is there a formal platform for citizen participation in PPP projects	Area Sabha law for community Participation as per JNNURM mandatory reform	No	No	No	No	No	no formal, but significant citizen participation
Enabled	Does the ULB have the capacity to play its role in PPP projects	Filling Key positions in urban management	Uncertain	Uncertain	Uncertain	Uncertain	Uncertain	yes
		Capacity building and training	Uncertain	Uncertain	Uncertain	Uncertain	Uncertain	Yes
	Is there a well structured procurement process for PPP projects	E-tendering system	yes	Yes				Yes

Category	Item	Specific Issue	PPP PROJECTS					
			24x7 water supply in Karnataka Towns	Cost savings through PPP in SWM – Surat/ Rajkot	Development of Bus Terminal in Uttranchal	Energy efficiency in Street lighting Bangalore	Desalination Plant in Chennai	Alandur Sewerage Project
Direct Accountability	Is there a charter of commitments for the PPP projects	Citizen Charter	Uncertain	Uncertain	Uncertain	Uncertain	Uncertain	Uncertain
	Is there full availability of all project finance information and peformance data on PPP projects	Public Disclosure of finances and performance, as per JNNURM disclosure law	No	No	No	No	No	No
	Is all information on PPP projects available real-time to any stakeholder	Comprehensive Website	Uncertain	Uncertain	Uncertain	Uncertain	Uncertain	Uncertain

Table 2

Category	Item	No	Specific Issue	Nature of Reform		
				Short Term	Medium Term	Long Term
				upto 1 year	1-3 years	3 years+
Regional	Is there a regional body for collective decision-making on PPP projects	1	Metropolitan Planning Committee/ District Planning Committee		X	
	Is there a regional body for an integrated approach to transport-related issues for PPP projects	2	Unified Metropolitan Transport Authority		X	
	Is there a regional body for an integrated approach to environmental issues for PPP projects	3	Unified Metropolitan Environment Authority		X	
	Is there a regional body that collects data on inputs/outcomes that can be available for PPP projects	4	Directorate of Metropolitan Economics and Statistics		X	
	Is there a regional body that serves as a Spatial data repository, that can be available for planning and mgmt of PPP projects	5	Metropolitan Spatial Data Centre		X	
	Are there existing plans that can be the basis for developing and implementing PPP projects, and is the PPP project coming out of/linked to the plan	6	Metropolitan/District Development Plan			X
		7	City level Master Plans		X	
	Are there enabling legal provisions for successful implementation of plans and PPP projects	8	Laws related to land use and planning		X	
		9	Laws related to land title of ownership and extents			X
		10	Robust Plan Enforcement System			X

Category	Item	No	Specific Issue	Nature of Reform		
				Short Term	Medium Term	Long Term
				upto 1 year	1-3 years	3 years+
Empowered	Is the ULB fully empowered to participate in relevant PPP projects	11	Transfer of all functions listed under schedule XII in 74th CAA to ULBs in the MA		X	
		12	Accountability of para-statals to ULBs	X		
	Is there a grievance redressal/conflict resolution system	13	Office of Urban Services Ombudsman		X	
	Is there a formal platform for citizen participation in PPP projects	14	Area Sabha law for community Participation as per JNNURM mandatory reform		X	
Enabled	Does the ULB have the capacity to play its role in PPP projects	15	Key positions in urban management	X		
		16	Capacity building and training		X	
	Is there a well structured procurement process for PPP projects	17	E-tendering system	X		
Direct Accountability	Is there a charter of commitments for the PPP projects	18	Citizen Charter	X		
	Is there full availability of all project finance information and peformance data on PPP projects	19	Public Disclosure of finances and performance, as per JNNURM disclosure law	X		
	Is all information on PPP projects available real-time to any stakeholder	20	Comprehensive Website	X		

— the data in the cells of the assessment are based on publicly available documents. Not all the information was available, hence the term "uncertain" is found in several cells. It could well be that some if not many of these items could result in a positive result from a governance standpoint. A more detailed perusal of the project documents would allow these terms to be replaced by more specific assessments of the questions being probed.

Discussion on Table 1

Table 1 shows that there are many governance gaps that can be seen even in PPP projects that are highlighted as successful ones. While these gaps vary by project, there are many common areas of gaps. Some of these common gaps are:

— In the Regional category, where the governance and institutional structures are uniformly absent. Many of these will create fundamental problems for PPP projects, such as the absence of laws on property title, absence of regional and city plans etc.

— In empowerment of ULBs and making para-statal bodies accountable to ULBs

— In the availability of formal platforms for citizen participation

— In capacities for ULBs to take up PPP projects and be legitimate counterparties to private sector operators, ensuring that strong contracts are created and Service Level Agreements (SLAs) are enforced

Discussion on Table 2

Table 2 offers an assessment (admittedly subjective, based on the authors' experience and perception) of the nature of each of the governance issues, in terms of the time taken to implement the particular reform.

The time required for the implementation of a reform is categorised into one of 3 buckets: short term (less than 1 year); medium-term (between 1 to 3 years); and long-term (3 years and beyond).

This table is in some sense a response to the point that systemic reforms take time, and that it is difficult to address these reforms within the context of PPP projects. While the latter part of the statement is true, that reforms should be taken up independent of PPP projects, the data in the table clearly highlights that not all reforms will take time.

Key points to note

— The bucketing of reform timelines are not intended to be a strict calendar, but rather more as a general indicator of how long that particular reform would take (based on the complexity of legal changes etc needed) , provided there was sufficient political and administrative will.

— It can be seen that of 20 items in the REED-based grid, only a small handful (3) fall into the long-term category. The largest category of items are in the medium-term bucket : this includes even complex regional level reforms like the establishment of metropolitan planning committee and other institutional structures. There are also sufficient number of items in the short-term category, including the passage of laws for citizen participation, building capacities in ULBs, and so on.

— It must be noted that the timelines indicated for reforms that are related to passage of laws do not include timelines for actual behavioural changes based on these new laws – this will clearly take more time, but shouldn't be a constraint in implementation.

Summary

The intent of this section is to move the needle of discussion beyond a generic call for governance changes, to attempt a systematic governance framework for evaluating PPP projects. Tables 1 and 2 illustrate what such a governance framework could be. The authors have used a 4-pronged framework called REED, and extracted 20 specific items of governance action that are necessary to be applied to any PPP project in urban infrastructure. When applied to projects that are deemed successful PPP projects in the urban

space, it can be seen that much work on governance still remains to be done.

Rather than the specific items in the framework, the critical point to note is that it is indeed possible to develop a governance checklist by which PPP projects can be evaluated. If developed further, a Governance Score can be created for every PPP project, to highlight the areas where further governance attention is required.

Another key aspect of using such a framework is that it focuses attention on the implementation of each such reform - table 2 attempts to place a timeline for each item in the governance checklist. It can be seen that when a fuzzy governance debate is unbundled into specific items, that change is indeed possible and in fact less intimidating.

The authors also wish to highlight the point that the purpose of using such a governance checklist or scoring system is not that projects with low governance scores should not be taken up, but rather that the spotlight needs to remain on the need for reforms, so that structural issues are not continuously compromised at the altar of short-term victories.

Section 4: Conclusion: Implications for action

The earlier section used a framework (REED) to assess governance issues that need to be addressed for successful execution of PPP projects in urban infrastructure. The analysis also underscores that a number of action points still remain in the domain of responsibility of the State – that government at any level cannot abdicate their continuing responsibility to address deep institutional gaps, by simply triggering tactical PPP projects and assuming that the private sector will step in to the breach by bringing their finances and skills to the table. PPP projects designed in such a manner will either not take off at all, or fail in the medium term, creating a greater risk aversion from the private sector to participate in such programmes. We often see evidence of this, when flagship PPP projects don't find any credible bidders at all, or if the risk premium in bids is far in excess of the economics demanded by the project, in some sense

reflecting the governance challenges in these projects.

On the other hand, if over time, if government keeps at improving the governance architecture in a consistent and transparent manner, a virtuous ecosystem can evolve, one that not only enables successful PPP projects, but also where democratic systems are strengthened.

As mentioned earlier, the challenge for India is not to get entrenched in either extreme view – on one hand that we don't have the time for reforms and that the need for infrastructure and services supersedes all other concerns; and on the other hand, that we come to a standstill until and unless the ideal governance ecosystem is in place. Our continuing challenge in India will be to thread the needle – to continuously push for new paradigms of thinking in how we fix our yawning urban infrastructure gap and leverage all the power of the market in doing this, while continuing to plug the gaps of excesses and inequities by strengthening our governance architecture.

A. K. Mehta

Macro Issues in Urban Governance

Twenty-first century urban India needs twenty-first century urban Governance. What it has currently is urban Governance that was not good enough for twentieth century. If the state basic urban services can be taken as reasonable and logical indicator of state of urban governance, the necessity and urgency of bringing about improvement in the state of urban governance becomes as self evident as inadequacy of actions taken so far. A quick look at the state of basic services in urban areas reveals where we are and how far we need to travel.

Water supply in nine out of ten cities in India does not meet basic quality parameters like turbidity, residual chlorine and thermo tolerant coliform bacteria (TTC)[1]. Nearly three crore people in urban areas defecate in open[2]. 80 % of sewage generated in Class I cities and Class II towns are disposed of without treatment[3]. Scientific disposal of the municipal solid waste is almost non-existent. Public transport accounts for just 22% of urban transport in India. Out of 85 cities with population of 0.5 million or more, only 20 cities have organized city bus service.

The state of basic services in urban areas at a time when the country is entering into a phase of decisive transition into a quasi-urban society could not have been much poorer, and, impliedly, state of urban governance more inefficient.

The belief that India lives in its villages has run its course and it is time to recognize that urban areas are as important as the rural areas and that the two do not necessarily constitute a dichotomy. India's urban population will rise to 590 million by 2030 which would be about 40 percent of the total population of the country[4], and, by 2050,

urban population will constitute nearly half of the total population in India. The urban areas today contribute around 60%[5] of the national GDP and more than 80%[6] of the incremental job creation. Impetus for growth in the future is likely to come from the urban areas, and it is cities that will be focus of socio-economic activity and hope for a large number of people. But sustaining this growth requires not only addressing the existing deficit in infrastructure and services, but also catering to future additions to urban population. This would conservatively require building as much infrastructure as we have now. The task is truly gigantic but this also provides India one the biggest opportunities since it can urbanize more efficiently and leapfrog in global competitiveness and sustainability. Given the scale of the task, inefficiency is no longer an option or luxury that India can afford.

In order to do so, cities in India must provide urban governance that is capable of meeting the challenge and is line with the expectations of 21st Century India. Cities in India must assure acceptable service levels in respect of basic needs like water supply, sewerage, solid waste management, storm water drainage, urban transport, electricity, security, and IT. Future belongs to 'smart' cities and technologically challenged cities with poor infrastructure are unlikely to flourish in an increasingly integrated world where cities will compete globally for investments and employment creation. Much of what may happen to India will be determined by nature and efficiency of urban governance, an issue that has been inadequately addressed so far.

The first significant step towards addressing issues related to urban governance and strengthening of decentralization process in post independence period was the 74th Constitution Amendment Act (74th CAA) which came into force in June, 1993. The main provisions included constitution and composition; constitution of wards committees; reservation of seats; duration of municipalities; powers and functions; finances; finance commission; elections; district and metropolitan planning committees, etc. The 74th

CAA, expects that ULBs will assume responsibilities for urban planning, water supply, social and economic planning, slum up gradation, public health, etc. An interesting aspect of 74th CAA and 73rd CAA is that while the 74th amendment lists eighteen functions for devolution to urban local bodies, the 73rd amendment lists 29 functions for devolution to rural local bodies. Therefore, States are expected to play greater role in governance of urban local bodies than their rural counter parts. This appears inexplicable, particularly in case of larger cities.

The principle for devolution has to be based on the principle of subsidiarity; which implies that functions which can be carried out efficiently by smaller bodies should not be performed by larger bodies. The role of larger bodies has to be essentially supportive. When functions that are best performed at local level are sought to be delivered at state level, it creates functional and accountability mismatch and becomes an impediment in efficient delivery. For example, when local water supply or sanitation is entrusted to state level entities, which are accountable only to state level functionaries, the entire accountability mechanism gets distorted. Local people can do very little to hold such state entities to account. Thus, basic services like water supply, sewerage, solid waste management, storm water drainage, local transport etc must be devolved at local levels, and the role of state entities in delivery of these services must be limited to that of service provider with well defined accountability to local governments.

The 74th CAA did not lay down revenue base for Urban Local Bodies (ULBs) and the power to determine the revenue base continues to vest with the state governments. Further, it did not make it mandatory for states to devolve eighteen functions listed by it and left the ultimate decision to the States.

The 74th CAA also provided for exemptions with respect to Schedule 5 and Schedule 6 areas pertaining to administration of tribal areas in general and in the states of Assam, Meghalaya, Tripura and Mizoram respectively[7]; and

industrial townships[8]. Thus, these areas were kept out of the purview of the process of democratic decentralization. In a relatively more recent development, special economic zones (SEZ) have added to the list of such areas. If the reason for not imposing democracy in Schedule 5 and 6 areas was respect for local traditions, exemptions in respect of industrial townships and SEZs reflects concern for efficiency.

The implications of above exemptions need to be fully understood. For example, if a large city is set up by an industry, would it be legitimate to keep it out of purview of democratic processes? Equally, should SEZs be exempt from such processes in the long run? Is it correct to believe that democracy is non-negotiable at Union and State level but not so at local level? These questions touch the core of our thinking process and clearly need to be resolved before too long.

A related question is that of role of parastatals and whether it is legitimate to assign them governance functions. This is not to argue that parastatals need to be done away with. Indeed, they can play important roles as service providers and technical arms to local self governments. However, they must be accountable to the local Governments and should not be superstructures of governance that weaken local institutions and lead to fragmentation of functions and responsibilities.

The 74th CAA laid down a useful framework, but clearly not a complete framework; leaving States to address issues not covered by it to cater to diversity of the country. Even so, study of implementation of 74th CAA in various states shows that its implementation has been uneven, with some states having performed better than others. While there has been full compliance in respect of provisions such as constitution of three types of ULBs, reservation of seats, and constitution of State Finance Commissions, the same cannot be said for other provisions like constitution of Wards Committees and Metropolitan Planning Committees. Many states have not transferred functions, funds and functionaries in spirit of the amendment. Most ULBs continue to be weak entities, without

adequate capacity for meeting their functional responsibilities. Significantly, while on one hand the 74th CAA has not been fully implemented, on the other hand, it's adequacy in emerging scenario of urbanization quite clearly needs a review, more so with reference to governance of mega cities. It needs to be recognized that some Cities in India have GDPs and populations at par with some countries and 74th CAA may be gross under-prescription for these cities, just as it may be somewhat over- prescription for very small cities. Therefore, there is need to infuse fresh energy into the implementation of democratic decentralization initiated by 74th CAA, suitably calibrating it for mega cities and small cities. This must be accomplished in a time bound manner.

Another critical area of urban Governance that has not been fully addressed relates to convergence. Even if 74th CAA were fully implemented, it would still fall much short of engaging local governments fully with emerging concerns like energy security, environmental security, and urban violence. The issue of rural-urban convergence any way remains inadequately addressed, despite provisions related to district planning[9] committees and metropolitan planning committees[10]. The Metropolitan Planning Committees have been constituted in just a few cities, and even where they have been constituted, they remain largely ineffective in discharging their due role. The role of Union Government in metropolitan cities has hardly received any attention, despite constitutional provisions[11]. The district planning committees have been constituted in most states; however, their capacity to bring about convergence remains a question mark, even if a constructive interpretation is made of its constitutional mandate of consolidation.

The issue of lack of convergence needs to be addressed at State and Union level as well. Union Government and States/UTs need to bring about better convergence in the delivery of multiple programmes run by them and leverage all of these for achieving identified outcomes. There is also a need for close co-operation at all three levels of the Government i.e. Union, States and Cities, given the scale and complexity of the challenge of urbanization.

While 74th CAA lays down a framework for municipal governance, it is the state municipal laws and other related state legislations that constitute the overall legal environment for urban governance. However, there is a need for basic uniformity and also a need for ensuring that emerging concerns like environment are suitably and adequately integrated. It merits mention here that some basic concepts like user charges have been challenged in some cases and unless key reforms in the urban sector are supported by enabling legal provisions, it may not be possible to achieve the goal of efficient governance. Thus, a constitutionally mandated framework municipal law could be the way forward.

A critical issue in improving urban governance relates to finance. The urban local bodies meet their expenditures from their own sources and transfers from state and Union Government. Transfers from Union Government are primarily routed through Plan schemes like the Jawaharlal Nehru Urban Renewal Mission (JNNURM) and devolutions in furtherance of Central Finance Commissions. Prior to JNNURM, the flow of investments from Union Government to cities was insignificant, not dissimilar to transfer through the mechanism of Central Finance Commissions prior to the 13th Finance Commission, which made some path breaking recommendations. There is a need to amend Article 280 (3) (c) of the Constitution which stipulates that the Commission shall make recommendations regarding the measures needed to augment the Consolidated Fund of a State to supplement the resources of the Municipalities in the State on the basis of the recommendations made by the State Finance Commissions (SFCs) which are usually not available in the time frame in which the Central Finance Commission is to make its recommendations. It would, therefore, be appropriate to provide greater freedom to the Commissions to make recommendations taking into account recommendations of State Finance Commissions but not necessarily on the basis of recommendations of SFCs. The positive and constructive approach taken by the 13th Finance Commission may not be necessarily adopted by future

Commissions. Similarly, the institution of State Finance Commissions also needs to be strengthened.

The investment requirement for addressing basic needs is staggering. A recent study by the CII estimates that between 2011 and 2020, India will need investments of the order of 990 billion USD or Rs. 45,00,000 Crore for basic urban amenities like sewerage and sanitation, water supply, housing, transport, electricity, healthcare etc. The Mckinsey Global Institute puts the investment requirement relating to capital and operating expenditure at 100, 00,000 Crore over next 20 years. Even a relatively conservative Report by the High Powered Expert Committee (HPEC) constituted by Government of India for assessing investment requirement has projected the capital investment requirement for urban infrastructure, renewal and redevelopment (including slums), and capacity building for the 20-year period from 2012-13 to 2031-32 at Rs. 35.75 lakh crore, apart from nearly 15 lakh crore for operation and maintenance. The actual investment in urban infrastructure against this requirement is assessed at Rs 45,000 Crore in the last year of the 11th Plan, indicating a need for manifold increase if the challenge of urbanization is to be addressed effectively.

Given the scale of requirements, it is unlikely that the investment requirements can be met through vertical transfers. Incentives need to be created for own source mobilization by cities. Resource Mobilization through alternative means would be essential and Cities should be encouraged to draw up resource mobilization plans. Cities need to look at options like impact fee, TDR (transfer of development rights), Land Banks on one hand and financial markets on the other through municipal bonds/PFF etc. At the same time, devolution of funds needs to be further strengthened. The recommendation of the HPEC regarding broad-basing revenue sharing by states with ULBs through suitable constitutional amendments/ other measures and introduction of a Local Bodies Finance List' in the Constitution needs to be implemented. The Committee recommends empowering the ULBs with exclusive' taxes e.g.

property tax, profession tax, entertainment tax and advertisement tax, constitutionally ensuring sharing of a pre-specified percentage of State's revenues from taxes on goods and services with the ULBs on the basis of formula designed by SFC, and provision of formula-based transfers and grants-in-aid to ULBs from the divisible pool. There is an obvious need to take full advantage of the strengths of the private sector as well. For this purpose, establishment of an urban infrastructure funding institution needs to be explored.

The process of empowerment of urban local bodies would be incomplete without addressing issue of their capacities. Leaving aside a few municipal bodies, most others do not have capacity to play their role as vibrant bodies capable of discharging their functions in emerging environment. As a first step, municipal cadre and professionalization of urban management needs to be attended to. There is a need to strengthen both demand side and supply side of the capacity building process. Adequate investments in capacity building and addressing capacity deficit at all levels are needed, including those of functionaries at union, state and city levels. Capacity building and training of elected representatives should be a priority. Needs of functionaries at cutting edge level often gets ignored and must be given adequate attention. E-Governance has to be necessary and integral part of capacity creation. Absence of capacity in strategic areas like urban planning, urban transport, disaster management and mitigation, project formulation and implementation, operation and maintenance, environmental management, delivery of basic services such as water and sanitation and addressing urban poverty is a key reason for poor performance of our cities and calls for sustained efforts to address the issue.

At the end of the day, it is the outcomes that matter, and all efforts to empower local governments and improve their capacity would be meaningless if it does not lead to improved service delivery. Assured service levels consistent with dignity of life should be the way forward in respect of basic services like water, sanitation, and urban transport. Service level benchmarking process which seeks to do so is gradually

getting institutionalized as part of Thirteenth Finance Commission recommendations and creates the necessary grounds for measuring performance and regulating service levels. Urban Governments must be accountable and transparent, and there is need to strengthen accountability mechanisms like public disclosure, citizen charters, grievance redressal, and platforms for people's participation like area sabhas.

Indeed, it is the nature of urban governance that will largely decide the future of urbanization in India but the time to bring about a credible structure may be running out.

Notes:-

1. Ministry of Urban Development, City Sanitation Rating , 2009. Only 39 out of 423 class 1 cities qualified on all three basic quality parameters: residual chlorine, turbidity, and TTC
2. As per 65th round of the NSS, 11% of urban households had no latrines. This implies that nearly three crore people in urban areas defecate in open.
3. CPCB, 2009: As per report, treatment capacity installed was only 30%. The actual treatment was estimated at 72.2 % in 2008 which implies that only about 20% sewage generated was treated before disposal in Class I cities and Class II towns (as per 2001 census).
4. India's Urban Awakening: Building inclusive cities, sustaining economic growth, 2010, Mckinsey Global Institute
5. Mid Term Appraisal, Eleventh Five Year Plan
6. India Urban Report, A summary assessment, 2007, NIPFP
7. Article 243 ZC of Constitution
8. Proviso, Article 243 (Q) 1
9. Article 243 ZD of the Constitution
10. Article 243ZE of the Constitution
11. Article 243 ZE 2(C) of the Constitution

S.M. Vijayanand

Peoples' Participation in Urban Local Governments – The Kerala Experience

INTRODUCTION

Immediately after the Constitutional Amendment, Kerala went in for what could be called a "big bang" decentralization. Though the State had reasonably strong Municipalities and Corporations before the Amendment it was not known for its decentralization initiatives. Devolution of functions, powers and funds was very limited during this period.

However, Kerala's development is known for effective "public action". Over a large part of the 20th century, even during the rule of the Kings and the British, there were several people's movements – caste based, class based, region based. Unique to these movements is their constructive character aiming at all-round uplift with special emphasis on human and social development. They were mostly non-conflictions, in a broad sense, with other social groups. And most important of all, the Governments of the time did not seek to suppress these movements; in several cases Government engaged in a sort of dialogue with these movements or, at least took the demands seriously and acted as positively as they could.

This tradition continued in the post independence time, with public action getting enriched through more and more people getting organized in different forms – political, occupational, communal, religious, cultural and so on. Naturally, this led to loud demands and conflicts, fortunately, mostly polemical and verbal. Some outsiders see this as irritating cacophony while several others view it as the natural noise of a vibrant democracy. Whatever be the

approach none can deny the inherently consultative and participatory culture of the State.

Over the years the public action tended to get more aggressive and adversarial and also partisan and selfish, with organized groups getting disproportionate benefits. So the need arose to bring it back to a more constructive, socially, and developmentally beneficial form. Out of this evolved the concept of participatory development.

Local Governments, closest to the people, were identified as the natural medium for peoples' participation, not merely by giving opinions and suggestions and making demands but by actually and formally being given a space in developmental governance.

With this objective the Peoples' Plan Campaign was launched as prelude to the IXth Five Year Plan. Though participatory process existed in some form or the other in rural developmental initiatives it was for the first time that any State attempted to widen and deepen peoples' participation in Urban Local Governments.

PEOPLES' PLAN CAMPAIGN

On October 2nd, 1995 the momentous decision to transfer functions and powers to the Local Governments was taken. Interestingly most of the public service delivery functions especially those relating to welfare and human development were made the responsibility of Local Governments including Urban Local Governments. To spread the message, educate the people and to motivate them to participate locally a year long campaign was launched on 17th August 1996 (the Malayalam New Year day). Cutting across divides every section of society was given a chance to join the participatory planning exercise. Written appeals were sent to every PhD and professional degree holder in the State, employees organizations, trade unions, religious organizations cultural organizations and every other group was involved in the process. It was hoped that this would lay the foundation for genuine participation in development activities.

Rather than focus on a sector, planning as a whole was

taken up since it was felt that every section of society would have a stake and expectation of benefit from local level planning. Thus decentralization was taken to mean power to the people through Local Governments.

PARTICIPATORY PLANNING

Over the last three Five Year Plans participatory planning is being followed both in the rural and urban Local Governments. The Kerala methodology has been validated both by the Expert Group on Grassroots Level Planning headed by Shri V. Ramachandran and the Manual on District Planning authorized by the Planning Commission. In brief the participatory planning process is summed up below:

Needs Identification: This is done through two processes; (1) through meetings of Ward Sabhas consisting of all electors in a Municipal Ward and (2) through stakeholder consultations covering practically every organized groups in the town or city.

Situation analysis: Working Groups are set up for different development sectors in each Municipality and Corporation. They undertake analysis of the development situation, consult stakeholders intensely, assess past experience, and present challenges and suggest optimal response option, and come out with detailed reports to the Local Government. Once in five years Local Governments prepare a written Development Report a product both of participatory appraisals as well as data analysis of the development scenario in different sectors.

Strategy setting: This is a citywide consultation of the key representatives of every group in a city to get a feel of the broad priorities and strategies to be adopted while preparing the development plan.

Resource allocation: The Subject Committees and the elected Councils study the outputs of the earlier steps and come out with a policy decision on resource allocation to different sectors and sub-sectors.

Projectization: Thereafter the Working Groups using simple templates prepare projects as per the priorities laid down by the elected Councils.

Plan finalization: The Sub-Committees and the full Council then go through the draft projects prepared by the Working Groups and finalize the Annual Plan and submit it to the District Planning Committee (DPC).

Plan vetting: The vetting is done by Technical Advisory Groups (TAGs) which are set up by the DPCs. These Committees cannot over-ride the choices or priorities of Local Governments but they can ensure technical and financial rectitude.

Plan approval: The DPC clears the Plans prepared by the Local Government after considering the reports of the TAGs.

ELEMENTS PROMOTING PARTICIPATION IN THE INSTITUTIONAL ARRANGEMENT FOR PARTICIPATORY PLANNING:

1) **Standing Committees:** There are 8 Standing Committees in Corporations and 6 in Municipalities. Each elected Councilor has to become a member of one or other Standing Committee, the elections to which are carried out on the basis of proportional representation. Since elections to Local Governments are held on party lines the Standing Committees would reflect the relative strength of different political parties within the Council.
2) **Elected Council:** All decisions have to be taken by elected Councils and not by the elected Chairperson. This ensures democratic discussions and decision making.
3) **Working Group:** Thus Working Groups are set up by the elected Council for different sectors. The typical composition of a Working Group is as follows:

   Chairperson – An elected Councilor preferably the Chairperson of the Standing Committee concerned.

   Vice Chairperson: A professional or expert in the sector.

   Convener: The senior most official in the sector

   Members: From among stakeholders/users and activists.

   It may be noted that the composition of the Working Group has been designed to bring about not only

participation but also involvement of five different interest groups – political, professional, official, stakeholder / user, activist – thus facilitating a kind of "quin-angulation" while considering a developmental issue.

4) **Technical Advisory Group (TAG).** These are set up by the elected Councils after an elaborate search process and include both officials and non-official experts from among retired officials and professionals from the private or voluntary sector.

5) **District Planning Committee:** It is a fifteen member body consisting of 12 elected members from the District Panchayat and Urban Local Government in proportion to the rural and urban population and three nominated members of which two are ex-officio viz., the President of the District Panchayat, who heads the DPC and the District Collector who is the Member Secretary and the third being an expert of repute. The DPCs are very active and meet very frequently during the planning process. They also conduct regular review of plan progress.

OTHER PARTICIPATORY MECHANISMS

Ward Sabhas

In all Municipalities having population below one lakh Ward Sabhas have to be held quarterly – for Plan formulation, for beneficiary selection, for Plan monitoring and for social audit. In bigger ULGs also they have to be called for planning purpose. Plan proposals have to be given in printed form to the Ward Sabha. Similarly expenditure details and audit objections have to be shared with the Ward Sabha. The participatory process is at its best in the selection of beneficiaries. The rule stipulates that for every project involving selection of beneficiaries a Local Government shall, at the time of formulation of the project, indicate the eligibility norms as well as the prioritization criteria among the eligible applicants. Each prioritization criterion has to be assigned marks in such a way that the total touches hundred.

Thereupon applications are invited and are enquired into normally by committees consisting of elected representatives, officials and representatives of community based organization of the poor. This group assigns marks based on their enquiry and these marks are read out in the Ward Sabha. The Ward Sabhas correct mistakes, if any. All the applications along with their marks are available for scrutiny to any member of the public.

Ward Committees

Though provided for in the Kerala Municipality Act for Urban Local Governments having a population of one lakh or more they are not yet fully functional. The composition of the Ward Committee is as follows:

"{43. **Composition of Ward Committee.** – The Ward Committee shall consist of the following members, namely:-

(a) the Councillor of that Ward who shall be its Chairman;

(b) fifteen persons to be elected in the manner prescribed, from among the members of the resident's association of that Ward, which are registered in the Municipality;

(c) twenty members to be elected in the manner prescribed from among the members of the registered neighbourhood groups of that Ward which are registered in the Municipality;

(d) one person each nominated by every political party having representation in the Municipality;

(e) the Heads of all recognized educational institutions functioning in that Ward;

(f) twenty persons nominated jointly by the Chairperson and Councillor of the Ward, of whom, –

  (i) ten shall be from the persons representing the cultural organizations, voluntary organizations, educational institutions, industrial – commercial establishments which are functioning in that Ward;

  (ii) five shall be from persons representing those working in that ward as professionals (experts in

agriculture, industry, health, education, engineering etc.); and

(iii) five shall be from persons in the registered trade unions:"

Provided that, the members nominated under items (i) and (ii) need not be the residents of that ward}.

Community Development Societies

More than 50% of the families in a town or city have been brought into a networked organization, with each family being represented only by a woman, covering almost the entire bottom half of the population. At the unit level there is a Neighbourhood Group (NHG) consisting of 15 to 20 families. Each NHG has five volunteers covering areas like Health, Education, Planning, Micro enterprises, Micro finance etc. All the NHGs within a Municipal Ward are networked into an organization called Area Development Society (ADS) and the ADSs in a Municipality or Corporation are federated into a registered society called the Community Development Society (CDS). As different from other States these women based Community Based Organizations (CBOs) of the poor work in partnership with Local Governments even while retaining their autonomy. Over the years they have gone up the ladder of empowerment from the first step of participation in a group and gaining confidence. To collective action for common good, through steps like knowing entitlements, asking for them, accessing them, improving existing livelihoods, diversifying existing livelihoods, planning for the family, neighbourhood and ultimately the community and involving in social action for the good of the neighbourhood. The whole process is fostered by the State Poverty Eradication Mission called Kudumbashree. It has succeeded to a remarkable extent in empowering the poor and engendering development. More than 50% of the elected women Councilors (i.e. more than a quarter of the total elected councilors) in the last elections held in October 2010 were from the Kudumbashree network.

The CDSs assist the Local Government in identifying

beneficiaries, executing small community based works, providing outreach and feed back and enhancing participation in the Ward Sabhas.

Residents Associations

Post decentralization Residents Associations have been hearby universalized, facilitated by the Corporations and bigger Municipalities. They are very active in overseeing civic services and putting forth collective demands for improvement. In many cities and towns they federate themselves voluntarily and get actively involved in the pre-budget discussions.

Institutional Committees

All institutions under the Local Government like Anganwadis, Schools, Hostels, and Hospitals have institutional management committees consisting of representatives of political parties and the civil society in addition to elected councillors and officials. These bodies ensure the active participation of stakeholders in assisting the management of these service delivery institutions, assessing their performance and providing feedback for improvement.

Beneficiary Committees

Beneficiary Committees are constituted for execution of public works. They are democratically elected from among the beneficiaries of a works project.

Enabling systems

Besides the processes prescribed for preparation of plans and selection of beneficiaries there are other mechanisms to facilitate peoples' participation. They include:

1) **Mandatory disclosures by urban local governments:** This covers the whole gamut of their functioning with special focus on income and expenditure, conferment of benefits and exercise of regulatory functions related to permits and licenses.
2) **Citizens Charter.** It is mandatory for all Local

Governments to develop and publish the Citizens Charter.

3) **Accredited NGOs:** NGOs of outstanding integrity and repute have been accredited following an elaborate procedure to execute public works of Local Governments without going through competitive tender. These works have a higher degree of transparency and bring about a partnership between civil society and the Local Government.

ACCOUNTABILITY SYSTEMS

If the processes and procedures related to participation and transparency are violated citizens have recourse to either the Ombudsman or the Appellate Tribunal. The former looks after development and governance and can go into complaints of corruption, nepotism, non performance, misuse of resources and so on, while the latter is the appellate body in relation to the exercise of regulatory power by Local Government related to licenses, permits and tax assessments. The functioning of these bodies is very informal particularly the Ombudsman and any citizen can approach them directly without an intermediary.

CRITIQUE

If one goes by just the number of attendees in the Ward Sabha, the picture of participation looks very bleak; it is mostly the poor who participate and not the better off sections who can be more critical of performance and more proactive and demanding of improvement. However if participation is assessed in terms of involvement of the citizen, particularly through organized fora in different aspects of the functioning of Local Governments and link the decisions of the Local Governments to impulses as well as articulated demands emanating out of these fora, then the levels of participation are remarkably high. After decentralization, transparency has increased considerably and targeting has improved. Social accountability is on the increase. But interestingly it is expressed sharply only at the time of elections. However, on a day-to-day basis the Councillor is on his toes responding to

his constituency in different forms.

Most interesting is the dynamics of participation set off by the network of women NHGs. No Local Government can ignore this network and invariably the priorities expressed by the network tend to be accepted by the Local Government. A synergetic relationship has emerged.

However it cannot be said that participation is uniform across Local Governments. Particularly participation of women and the poorer sections is higher. Similarly participation is more in the smaller Local Governments. Interestingly the quality of participation seems to be better in the northern region of Kerala.

NEW INITIATIVES ON THE ANVIL

In order to strengthen participation and to include those at the margins and outside, certain important initiatives are ready for operationalization. They include:

Inclusion of the disadvantaged:

Already there is a programme called Asraya which provides care to the destitutes who constitute about 1 to 2% of the population. This community based initiative is to be extended to cover all the Urban Local governments within one year. This would ensure that even those incapable of participation are gently assisted to join the main stream.

Another interesting initiative is to reach out to the terminally ill through a community supported programme of palliative care. This is getting slowly rooted and is expected to expand with the support of non-government organizations and volunteers in addition to the Kudumbashree network.

Another initiative to bring in the excluded is called BUDS which seeks to provide necessary care and education to the mentally challenged children. It is expected that over the next Five Year Plan this scheme would be universalized.

Another important initiative is to organize the differently unable people into Neighbourhood Groups and federate them at the Local Government level as a subset of Kudumbashree. This is expected to generate enough social capital in this

group to access their entitlements.

Participatory Planning by the poor

During the 12th Five Year Plan Local Governments are expected to prepare an integrated Anti-Poverty Sub Plan in which the CDS system would be the main agency. In other words the poor people themselves would be capacitated to develop their own plans for coming out of poverty. This would start with participatory poverty assessment and cover both the slum and non-slum poor.

Citizen education

Facilitators would be trained by the Kerala Institute of Local Administration (KILA) in each Municipal Ward so that they can act as animators to make the Ward Sabha meetings more participatory and effective.

Service Delivery Plans

All Local Governments are to come out with Service Delivery Plans as part of the 12th Five Year Plan covering the important services rendered by them. A good number of services are to be brought under the proposed legislation to ensure timely service delivery.

Citizen Surveys and Social Audit

Citizen Surveys are to be conducted in selected Municipalities and Corporations to assess people's perceptions of the effectiveness of municipal performance especially in key areas like sanitation, water supply, health and education. Also Social Audit is to be expanded to cover urban areas. An independent Social Audit Cell has been created at the State level and it has developed a comprehensive methodology to utilize trained people from local areas in conducting verifications and presenting them to the Ward Sabhas.

CONCLUSION

The decade and a half old experience in attempting to inculcate participatory governance through Local Governments reveals that there are certain key ingredients

for achieving the objective. They are: -

a. A culture of participation within Local Governments and among the people – This is more social and political and normally takes quite some time to devolve.

b. Policies, processes, procedures and systems – This is something which can be pushed proactively by the Government. It would give the crucial opening to people to move ahead.

c. Organization of the people especially the poor – This is very important for enabling people to use the opening provided by policies, processes, procedures and systems and effectively use the space provided for participation.

d. Independent umpiring system. These would ensure that grievances are addressed and rules of the game are followed.

The last three are within the control of Government to bring about. If they are there the culture of participation would evolve faster.

The Kudumbashree experience shows that participation is essential for initially acquiring capabilities and then converting them to functioning's. In this sense, participation enlarges freedoms and brings about acceptable development.

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Promoting Sustainable Urban Growth in Indian Cities

Introduction

This paper analyses the contribution of technology improvement, public transport improvement and defining the urban structure (density) independently and the sequencing of these efforts on CO_2 emissions based on the empirical assessment of twenty one cities in India. Transportation is the second largest contributor of green house gas (GHG) emissions in India and accounts to about 12.9% of total CO_2 emissions[1]. Of this, road transportation sector contributes to about 87% of the total CO_2 emissions. Urbanisation in India is taking place at a very rapid pace; recently released census 2011 figures indicate that around 31% of the total population is in urban areas, which is estimated to increase to 40% in the next 20 years. By 2031, urban population is expected to reach 600 million. Most of the cities in India have a road based transport system and hence this becomes an even more alarming situation. To deal with the situation, there have been efforts both in terms of policy improvements in the form of the National Urban Transport Policy which promotes public transportation and non motorised vehicles and JnNURM I which provides for funding for urban transport projects in selected cities. These efforts are further supported by legislation in the form of technology enhancements i.e. introduction of Bharat Stage I, II, III and IV. It is important to understand that urban structure, travel demand and energy are intricately related; hence policies initiatives by government have to accept this fact in order to make a difference in CO_2 emissions.

1.1 Urbanisation in India

India is on the path of rapid urbanisation. The 2011 census figures show that urban India with 377 million people accounts for 31% of the total population. By 2031, urban population is expected to reach 600 million, taking urbanization rate from 31% to 40%. In terms of economic contribution, in 2008 urban sector accounted for 58 percent of India's overall GDP and by 2030 it is expected to grow to75%[2].

As of today, there are 7,935 cities and towns in India, an increase from 5,161 towns and cities in 2001. The size - class structure of the urban system has a wide variation. If trends of change continue, by 2031, the numbers of urban areas are likely to double. Many more small and medium sized towns will emerge creating a new and more decentralised urban India.

The interrelation between land use and transportation is an established concept. The role of urban transportation to deliver compact cities is historically neglected by urban planners while drawing up strategic development and land-use plans (GoI 2005)[3]. This has resulted in uncontrolled urbanisation leading to sprawl. Spatial plans, though statutory are prepared more as an ad-hoc decision. Inadequate planning framework coupled with uncoordinated industrial and environmental policies are factors that exacerbate urban sprawl. It has been observed that in sprawling cities, the capital investment requirements for building transport and other networks are two to three times that of compact cities. They also contribute to increased trip lengths, longer peak duration and travel times, resulting in congestion, road safety risks, increased energy consumption and deterioration in air quality.

Urban structure has three dimensions; density and the resultant spread of the city (size & shape), activity/ land use distribution and the network connecting land uses. The travel demand in urban areas, in addition to socio-economic characteristics, is largely influenced by the urban structure.

The location of land use activities in the city also contributes to its compactness. An analysis of the spatial expansion of 20 large cities of India[4], concluded that many Indian cities, which traditionally were high density compact cities, are now beginning to sprawl. The cities of Ludhiana, Hyderabad. Coimbatore, Indore and Lucknow top the list of sprawling cities with densities equal to or lower than 70 persons per hectare. On the other hand, Mumbai, Patna, Nagpur, Ahmedabad, Kanpur, Surat and Chennai top the list of compact cities with 130 persons/ hectare and above densities. The cities of Vadodara, Kolkata, Bangalore, Pune, Pimpri-Chinchwad, Jaipur, Bhopal and Kochi fall in the in-between category with densities ranging from 72-105/persons/ hectare.

Complete road network with well defined pattern and road hierarchy are key elements of an efficient network. These aspects help in keeping the trip lengths and the travel times in the city on a lower side as seen in case of Ahmedabad when compared it to a similar size city of Hyderabad. It is evident that the connectivity offered in case of Ahmedabad has helped it to have a better urban structure.

The figure 1-1 depicts the interrelationship between trip length and city size in the Indian cities. A strong correlation between the sprawl area and trip lengths is very evident. This relationship has been further used in the paper to assess average trip lengths for sprawling future cities.

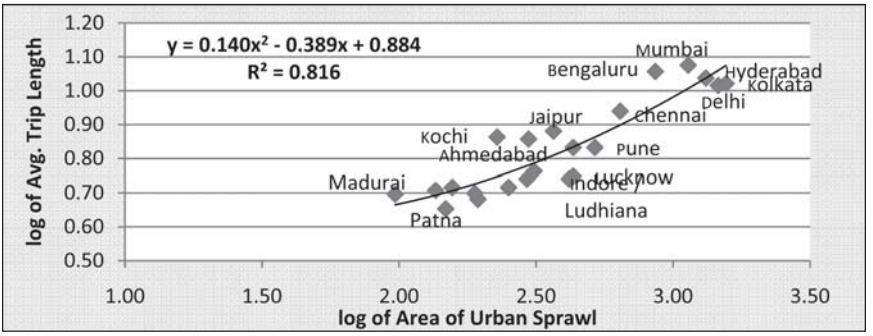

Figure 2-1 Average Trip Length versus City size (2008)

Source: Wilbur Smith Report (2008)

Urban sprawl has also led to increase in trip distance which again works to the disadvantage of NMV transport. With traffic mix predominated by two, three wheelers and cars, the congestion is becoming a regular feature in most cities.

1.2 Motorisation and Inadequate Transport Infrastructure

Large cities are faced with the problems of rapid motorisation as a result of economic development coupled with growth in middle class[5] which has culminated in the increase in motorised vehicles. In major cities of India, vehicles registered have gone up by 9.5% pa. The growth of passenger vehicles has been above 10% while that of other vehicles is around 6%pa. The share of two wheelers is as high at 70% in some cities. In Delhi, the share of cars is at 28%. Most cities are fast catching up with this trend.

The car ownership rates are still low as commuters in the Indian cities travel by two wheelers, both motorised and non-motorised. It is estimated that the rate of car ownership in Delhi is close 70 cars/1000 people[6]. This is lower at 35-40 cars/1000 people in cities like Bengaluru, Hyderabad, and Ahmedabad etc. These when compared to the car ownership rates of cities in Europe (350 cars/1000 people), North America (850 cars/1000 people), and Singapore (115 cars/1000 people) looks very low. However, when we add motorised two wheelers, the rate in Delhi would be 1.5 times that of Singapore and it will be similar to Singapore in other cities. As the rate of growth in cars is much more than 2-wheelers, the situation, if not controlled would soon deteriorate since the supply of road space in the city is limited.

The current perception related to poor quality of buses and the lack of facilities for bicycle users are contributing factors to the decline of public transport and non motorised vehicle mode share. Till recently, there were only 20 cities in India which were providing organised public transport services. With JnNURM this number has gone up to 63 cities.

In the smaller cities, small vehicles to operate as public transport are necessary. Technological improvements in

minibuses and three wheelers are essential. Institutional frameworks for operational management would also be required.

1.3 Adverse Environmental Impacts

Transport emissions affect both local and global climate. Efforts at various levels to mitigate these impacts have met with mixed success. Introduction of CNG, ultra low sulphur diesel, unleaded petrol and stricter emission norms (BS III and IV) have only managed to curb emissions growth rate. Most Indian cities have high pollution levels. Data available from the CPCB indicates that SPM and RSPM in the top 7 cities in India were at 'critical' level in 2005.

The cities with the worst air quality are Ludhiana, Kanpur, Delhi, Lucknow, Indore, Agra, Kolkota, and Faridabad in that order. These high levels suggest that urban dwellers in India are at higher risk for respiratory illnesses, heart disease, and lung cancer because of the concentration of fine particulate matter. Urban transport is a major contributor to air quality deterioration. The sheer increase in private vehicles on road means that the technological solutions need to be augmented with strong policies to curb private vehicle use.

2. Study Methodology

2.1 Cities selection

Twenty one million plus cities in 2011 have been selected for research these include Mumbai, Delhi, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad, Pune, Surat, Jaipur, Lucknow, Kanpur, Nagpur, Indore, Patna, Bhopal, Ludhiana, Vadodara, Visakhapatnam, Madurai and Coimbatore. The study only considers passenger vehicles and freight is not included.

2.2 Green House Gas (GHG) Emissions

GHG in any urban area is contributed by three main factors. The first factor is vehicle technology which determines the emission factor and this is mainly controlled

by stage wise adoption of fuel efficient and emission reduction technologies. The second factor, travel effort is largely determined by land use-transport arrangements in a city; trip length is a critical factor affecting level of emissions. The third factor, modal mix is determined by land use-transport arrangements as well as by the quality and quantity of public and non-motorised transit supply.

CO_2 is identified to be major component of GHG. Therefore, CO_2 has been considered as a parameter for predicting emissions rates. CO_2 emissions are measured in g/km of vehicular run, which is directly proportional to 'motorised per capita trip rate' and 'trip length'.

Trip length

Calculated as a function of area; in relation to current trends in India (figure 1-1)

Function of (log 'trip length') = function of (log 'area')

y = 0.1407x2 – 0.3897x + 0.884

Where,

y = log of trip length

x = log of Urban sprawl Area

Average distance traveled per day by each category of vehicles = dv

Vehicle Kilometre

Passenger Kilometres= Pv

Vehicle Occupancy= O

Vehicle Km Vk = Pv* dv / O

CO_2 emissions[7]

"The following methodology has been used to calculate the carbon dioxide emissions. The vehicular emission load of CO2 can be estimated by multiplying emission coefficient of CO2 (as derived from equivalent emission coefficient of CO of different vehicles in different stages of norms) with distance travelled by each vehicle. Therefore the emission load of CO2

can be calculated from the pollution load of CO. The emission load of CO2 by vehicles has been derived by considering the important parameters such as emission coefficient of CO, equivalent weight of CO and CO2, average distance travelled per day by each category of vehicle and total number of vehicles. Total emission of CO2 (Kg) by the vehicles can be obtained by the following considerations/equations:

Let, Coefficient of CO = Cf co

Coefficient of CO2 = Cf co2

Equivalent weight of CO = Eco

Equivalent weight of CO2 = Eco2

Emission Coefficient of CO has been converted to its equivalent load of CO2 by the equation:

Equivalent load of Cf co2 = Cf co * Eco2 / Eco ..... (II)

Total emissions in Kg of CO2 by any category of vehicle = Cf co * Eco2 / Eco2 * Vk (IV)"

The first step is to calculate the base year emissions; the data in table 2-1 given below was used to calculate the base emissions.

It is interesting to note the correlation between density and trip lengths which are very evident from the table 2-1. The density in Mumbai is very high at 180pph. Some other cities like Delhi, Ahmedabad, Surat, Chennai, Patna, Bhopal and Madurai have densities higher than 125 pph. It is therefore fair to suggest that around one-fourth of these major cities have quite high urban densities. The average trip lengths of the four major metropolitan areas in India are in the range of 10-12kms. For the rest of the cities it is in the range of 5-7.5kms.

Using the equation given earlier the total CO_2 emissions for the base year 2011 is estimated to around 30027 tons per day, this amount to about 0.24 kg per capita per day.

2.3 Urban Growth Management Scenarios

For estimating CO_2 emissions from passenger based road transport in Indian cities, three scenarios are constructed by

Table 2-1 Existing Population, Area, vehicle ownership and average trip length for 22 major cities

Cities	Population UA (in lakh): 2011	Density (in pph): 2011	Urban Area (Existing in sqkm): 2011	Avg Trip Length (in km): 2011	Per Capita Motorised Trip Rate' (as expected in future)	Trip Share 2W: 2011	Trip Share 3W: 2011	Trip Share 4W: 2011	Trip Share PT: 2011
Mumbai	202.9	179	1135	11.9	1.12	14.0	4.0	13.0	69.0
Delhi	212.0	145	1460	10.4	1.10	8.0	9.0	21.0	62.0
Kolkata	163.6	105	1560	10.5	1.05	14.0	4.0	13.0	69.0
Chennai	86.0	134	641	8.7	1.13	30.0	12.0	14.0	43.0
Bengaluru	84.9	99	861	11.4	0.95	27.0	11.0	12.0	51.0
Hyderabad	77.0	59	1316	10.9	1.01	29.0	10.0	13.0	48.0
Ahmedabad	63.2	146	432	6.8	0.90	41.0	10.0	27.0	22.0
Pune	50.5	97	518	6.8	0.87	55.0	12.0	19.0	15.0
Surat	45.6	147	311	5.8	0.74	59.0	12.0	28.0	1.0
Jaipur	30.7	84	366	7.6	0.77	45.0	7.0	14.0	34.0
Lucknow	28.2	65	432	5.6	0.71	42.0	13.0	31.0	14.0
Kanpur	27.7	110	251	5.2	0.63	42.0	13.0	31.0	14.0
Nagpur	24.1	124	194	4.8	0.72	74.0	3.0	6.0	17.0
Indore	19.6	67	293	5.5	0.71	42.0	13.0	31.0	14.0
Patna	19.8	134	148	4.5	0.71	55.0	5.0	15.0	25.0
Bhopal	18.0	132	136	5.1	0.63	55.0	5.0	15.0	25.0
Ludhiana	16.1	39	418	5.5	0.65	42.0	13.0	31.0	14.0
Vadodara	16.7	88	189	5.0	0.65	74.0	3.0	6.0	17.0
Visakhapatnam	16.6	106	156	5.2	0.86	42.0	13.0	31.0	14.0
Madurai	13.2	137	97	5.0	0.54	34.0	20.0	17.0	30.0
Coimbatore	10.6	36	297	7.2	0.60	42.0	13.0	31.0	14.0

Source:

Population *– www.census2011.co.in & http://articles.timesofindia.indiatimes.com: 2011 population of UA (as on Nov.01st, 2011);*

Urban Sprawl Area*- Paper on: What is a compact city? How could it be measured? Madhu Singh, School of Planning and Public Policy, CEPT University, Ahmedabad & CEPT Studies;*

Trip Length, Per capita trip rate, Mode Share*- Traffic & Transportation Policies & Strategies in Urban Areas; by WSA for MoUD; May 2008 , CDPs & CMPs*

varying the following three parameters; density, share of public transport and vehicle technology. The three scenarios are given below –

1. **Business as Usual Scenario (BAU)** - The underlying assumption is that things in future will continue on the present trends.
2. **Proactive Management Scenario**- This scenario lays down the assumption that the cities will follow a proactive management approach in terms of city densification, improvement in the public transport system both in terms of quality and also the coverage of the services. Along with this adoption of better vehicle technology and making cleaner fuels available.
3. **Unmanaged Scenario** - This scenario assumes that the cities take a casual approach and are not able to maintain the existing infrastructure deteriorating the public transport share due to poor quality, leading to sprawl. The cities do not keep pace with the vehicle technology improvement and have poor enforcements.

The details for scenarios worked are as shown below:

Assumptions

1. The cites in India at maximum can double in the next 20 years taking this assumption the changes in terms density can be maximum up to 30% positive or negative.
2. In terms of public transportation, only road based passenger transport systems are considered. Rail is not included as a part of the evaluation process. Apart from this, impact of non motorised vehicles is also not considered.
3. Speeds also have an impact on the emissions; collecting information on speeds for all the cities is a complex process and hence is not included in the process.
4. While computing mode share for vehicle other than buses the ratio of IPT is kept same as BAU while ratio 2W to 4W is taken as 65:35.

5. Motorised Trip Rate for cities is assumed to be increased by 10% in 2031

2.3.1 Density and impact on carbon emissions

Several studies have highlighted the impact of high density developments on reducing trip lengths/ trip times[8]. Hong Kong has the highest density and the lowest energy use while Houston had lowest density and highest energy used per capita[9]. The study supports the inverse relationship between density and GHG emission. In this context many urban areas across the world are trying to develop integrated

Table 2-2 Growth Management Scenarios

	Proactive Management Scenario		BAU Scenario	Unmanaged Scenario		Applicable to
Density	+30% to existing		BAU	-30% to existing		All Cities
Public Transport Share (of road based motorised trips)	70% PT share or max. as existing		BAU	50% PT share or min. as existing		Cities above 20 million population in 2031
	50% PT share or max. as existing		BAU	30% PT share or min. as existing		Cities with Population between 4 million & 20 million in 2031
	35% PT share or max. as existing		BAU	15% PT share or min. as existing		Cities below 4 million population in 2031
Vehicle Technology	**BS-IV**	**BS-V***	**BS-IV**	**BS-III**	**BS-IV**	
2-W Petrol	100	0	100	50	50	All Cities
3-W Petrol	0	40	50	25	25	All Cities
3-W CNG	0	60	50	25	25	All Cities
4-W Petrol	0	70	50	25	25	All Cities
4-W Diesel	0	30	50	25	25	All Cities
Buses Diesel	0	80	50	25	25	All Cities
Buses CNG	0	20	50	25	25	All Cities

**Adopted from Euro V Standards*

land use transport cities with mixed land uses and high density developments. Such cities are argued to be "more sustainable and less automobile –dependent"[10].

An analysis of how developing compact cities in India would help in carbon savings was carried out. In context of Indian cities, three scenarios were worked out keeping the assumption that there will be no improvements in vehicle technology or the improvement in public transport share-

1. **Business as usual Scenario (BAU)**: Assuming 2031 densities to be same as current density levels.
2. **Proactive Management Scenario**: Expecting density to increase by 30% leading to compact city development.
3. **Unmanaged Scenario**: Expecting density to reduce by 30% leading to sprawl.

Based on different density levels, area requirements for 2031 for all 21 cities were computed. Based on the inter-relation between trip length and city size in Indian cities, total vehicle kms and emissions were estimated for these cities taking the above scenarios.

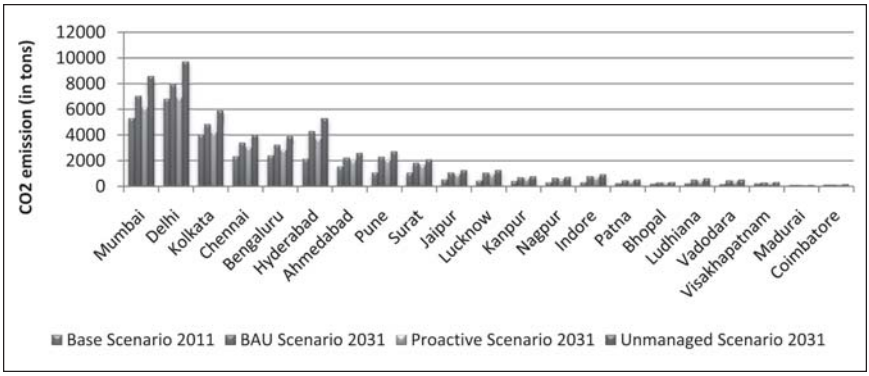

Figure 2-1 Impact of Density

Figure 2-1 shows the CO2 emission levels for different Indian cities. As seen above the emissions in the cities of Delhi, Hyderabad and Ludhiana show significant saving (> 35%) in the proactive scenario, where as in all the other cities, savings are closer to around 30%.

The total CO2 emissions in case of sprawl situation will be around 40% more in big cities as compared to around 33% in other cities.

2.3.2 Public Transport Mode share and impact on carbon emissions

Improving public transport has been identified as one of the main policy fields of sustainable urban planning[11]. Public transport oriented cities have positive effects on environment. An analysis of the 21 cities in terms of improving transit ridership was carried out using the three scenarios taking the assumption that the density and the vehicle technology improvement impacts are constant.

1. **Business as usual Scenario (BAU):** Assuming 2031 Cities to maintain their PT share (as existing)
2. **Unmanaged Scenario**: In cities of Mumbai, Delhi & Kolkata public transportation may reduce to 50% share; while other cities above 4 million Population (2031) to achieve minimum of 30% PT share; other smaller cities to have minimum of 15% PT share
3. **Proactive Management Scenario**: Mumbai, Delhi & Kolkata to have minimum of 70% PT share; while other cities above 4 million population (2031) to achieve minimum of 50% PT share; other smaller cities to have minimum of 35% PT share

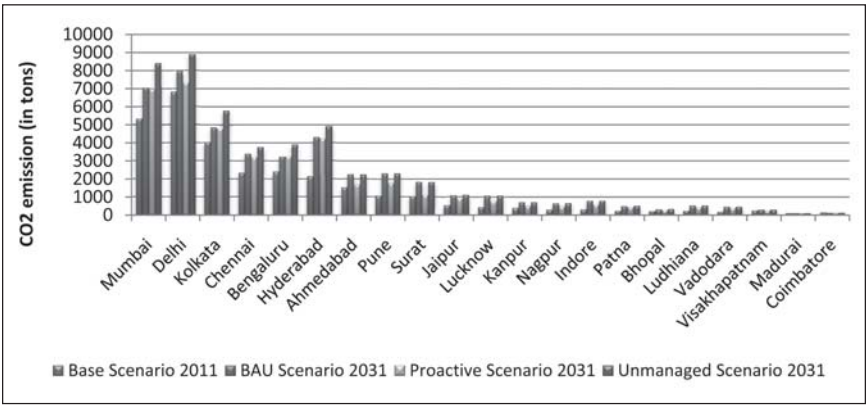

Figure 2-2 Impact of Improved Public Transport Share

It can be observed in figure 2-2 that total emissions in case of big cities show a saving of around 20% as compared to around 26% in rest of the cities. However it is also interesting to note that the cities which had low public transport ridership in business as usual scenario also show significant savings (up to 35.5%) in the proactive scenario. Therefore the result indicates importance of public transit as it reduces per capita GHG emissions per km transit.

2.3.3 Fuel Technology and impact on carbon emissions

Cities across the world have implemented stringent emission norms to regulate level of pollutants released from automobiles. In case of India, Bharat Stage-IV norms have been made mandatory in 11 cities of India plus National Capital Region. Apart from this, CNG is also being used as an alternate fuel in public transport vehicles.

Impact of BS-IV and BS-V standards, CNG public transport and diesel based private vehicles is examined in case of 21 cities using the following scenarios with the assumption that densities and public transport share remains constant.

1. **Business as usual Scenario (BAU):** Cities to achieve at least 100% BS-IV technology with equal share of fuel type
2. **Unmanaged Scenario:** Cities to achieve only 50% each of BS-III & BS-IV with equal share of fuel type

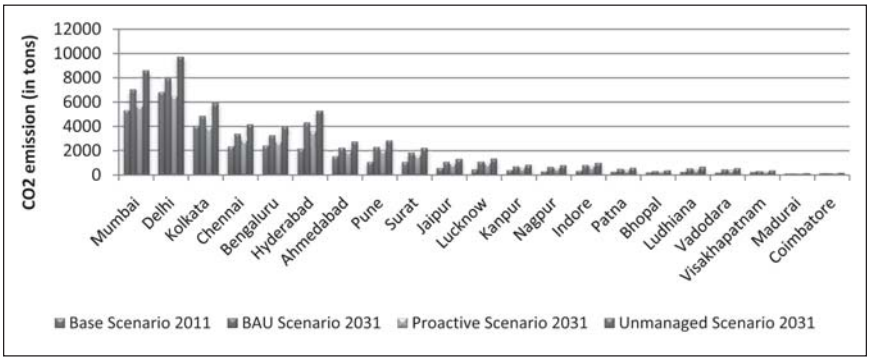

Figure 2-3 Impact of Vehicle Technology

3. **Proactive Management Scenario:** Cities to achieve at least 100% BS-V technology with 80% diesel : 20% CNG for bus, 70% petrol: 30% diesel for four wheelers and 40% petrol : 60% CNG for three wheeler in terms of fuel type (for 2W 100% BS-IV considered with 100% petrol)

It is interesting to note that the saving in case of the proactive scenario in the big cities is about 40% while the average saving in rest of the cities is even higher at 45%. It is interesting to note that the average saving in cities like Madurai, Vishakhapatnam and Coimbatore is as high as 52%. If we compare technology and fuel type it is evident that technology improvements with GHG saving of 46% have a priority over fuel type which contributes to around 15%.

2.4 Comparison of overall Scenario Results

If we compare the overall emissions (figure 2-4) it is evident that proactive scenario is resulting in lowering the CO2 emission from the current level by around 4.8% where as in case of business as usual scenario the total emissions increase by about 46% which in itself is a huge increase. As expected the results are very alarming in case of unmanaged approach and the total emissions may go up by about 140%.

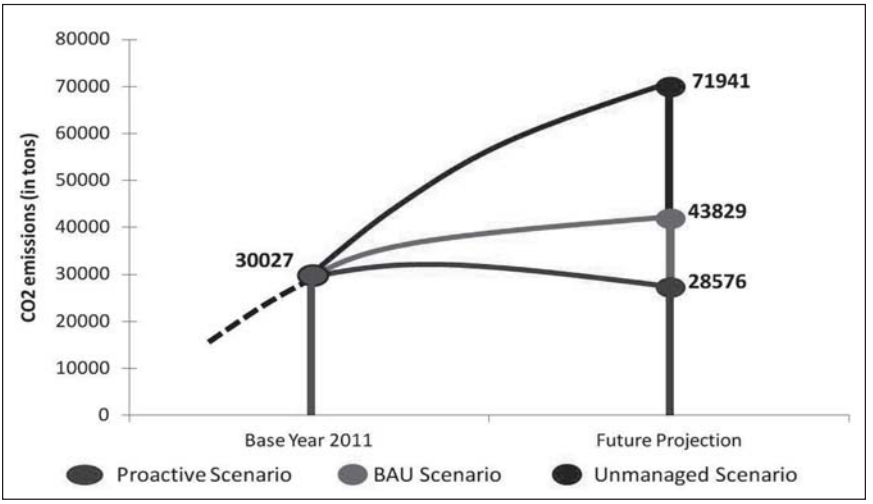

Figure 2-4 Comparison of Scenarios

2.5 Synergy Impact

The above given scenarios were tested in isolation, by combining the parameters two more scenarios were tested.

1. Considering the improvement is public transport share followed by the improvement in vehicle technology the saving of this cumulative scenario is more than the independent results. The improvement is shown by the synergy factor which percolates and increments the savings. The saving in case of this scenario is about 1.7% more that the summation of the individual efforts.
2. Similarly if density, public transport and vehicle technology are improved together the synergic effect is even higher by 4.9% as compared to the above scenario.

Here the value of synergy Impact which is derived as a virtue of strategies working together if taken as base measure for GHG mitigation.

The effect of saving caused by the strategies infiltrated over the secondary parameters as a cause of reduced trip length and appears as 'synergy' value addition. In case of the 21 cities studied, 6.6% (figure 2-5) saving can be achieved in the proactive management scenario considering all the strategies are considered.

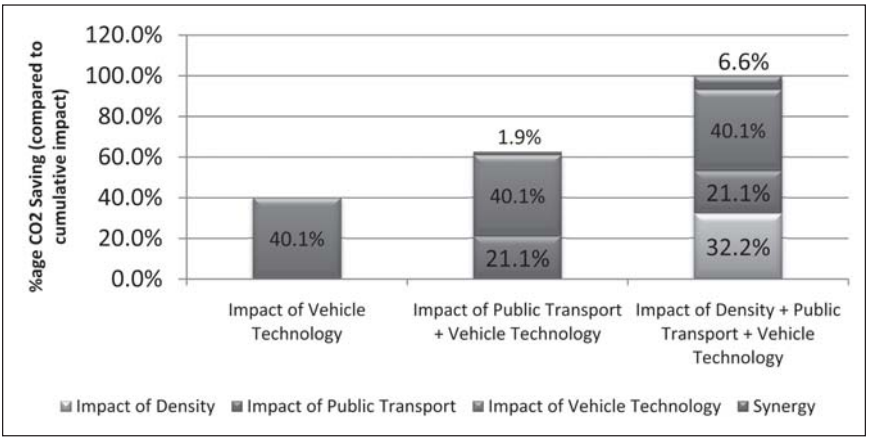

Figure 2-5 Comparison of Scenarios in terms of percentage CO2 saving per day

3. CONCLUSIONS

The study evaluated the potential contribution of three different strategies; vehicle technology improvements, improvements in public transport and density towards GHG emissions reduction. The contribution was decomposed for each strategy. It is observed that the combined effect of all three together towards GHG emission reduction is more than the sum of their individual contribution.

The results from the analysis in this paper suggests that, while improvements in vehicle technology does provide significant benefits, this alone as a strategy is not going to be adequate to achieve the goal of bringing down GHG emissions from the present level.

The potential savings due to density factor and its synergy effect is as high as 39%. The synergy is necessarily an outcome of the density effect in terms of increase or decrease in the trip length and thereby the total vehicle kilometres travelled. Given this, structuring urban areas as compact cities needs to be taken up as a base strategy. It is important to note that if we fail to restructure our cities now in the desired manner, it would be a lost opportunity for ever. The ill effects of sprawl would be irreversible even in the long run.

Spatial Planning Framework is an important instrument to influence densities in cities. A national framework to incentivise high density development through planning and other legislative and tax instruments is necessary. The planning process has to integrate sectoral, jurisdictional and institutional aspects. Land use and transport plans are to be undertaken simultaneously to achieve integrated development. Enabling mechanisms to undertake area wide urban renewal would help bring back the importance of city centre. The Rent Act, ULC Act, property tax differentials between urban and suburban areas encourages urban sprawl. Some of these are already part of the JnNURM reform agenda. Introducing Vacant Land Tax needs serious consideration.

To achieve additional benefits in terms of emission savings through synergy, compact city growth strategies, continued efforts to improve vehicle technology and improvements in public transport system should be packaged as part of a composite strategy.

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S. Sriraman

Urban Transport Governance with Special Reference to Mumbai

1. Introduction

The problem of urban growth is of great significance in most developing countries like India. There are many governments which consider their major cities as too large and policy makers everywhere seem to be very concerned with implementation of regional decentralization programmes. Though economist are more ambiguous of the relative costs and benefits of urbanization, there has been an increasing concern about the growth of urban areas and the need for policies to manage urban growth more effectively with its attending problems of congestion, pollution, inadequate provision of basic services, etc. Those who emphasise the advantage of large urban areas hold the position that problems related to city size have arisen due to the inability to find of more effective ways of managing urban growth (Bahl and Linn, 1992). It is widely held that this is the basis of most problems (including those related to transport) relating to the urbanization process. With urbanization continuing to be rapid, it is an emerging view that the solution to urban problems lies in attempting to apply different and better ways to deal with them. In other words, better governance mechanisms would be required to satisfactorily solve many of these problems. It is against this background that this paper attempts to understand the evolving urbanization process from the point of view of the effectiveness of the framework of governance that is in place today especially in regard to the urban transport sector. In the next Section, we present a theoretical overview of the urbanization process and its implications followed in Section

3 by a short description of the process in the Indian context. In Section 4, we analyse the urban transport situation in Mumbai following the implementation of the Mumbai Urban Transport Project II with a focus on governance issues which have prevented more effective ways of utilizing capacities that have been are being) built up. Further, in Section 5, we attempt to provide an alternate model of governance in the Mumbai context.

2. The Urbanisation Process

The urbanization process has been quite rapid in developing countries like India with resulting problems of inadequate housing and other infrastructural facilities like transport, water supply, etc. The important characteristics of current problems are the scale and intensity of such problems and inadequacy of resources.

While there are differences amongst various cities due to a variety of factors, the general pattern of urbanization has been characterized by high population growth, the dominant emerging problem being the excessive growth of large cities especially metropolitan ones. This pattern is expected to prevail in the future as the basic economic and social forces, which encourage the growth of these cities, continue to dominate. Several times in the past, there has arisen an argument for policies to contain urbanization (especially excessive growth) and thereby the size of cities. More specifically, the relevant question that has been (and continues to be) raised is: Is it not possible to restrict growth of cities to an optimum size? The concept of an optimal city is based on comparison of costs and benefits associated with city size (population measured on the horizontal axis). Adopting the common assumption of an S-shaped benefit curve and a U-shaped cost curve, it is expected that net benefits would become zero at some finite city size. Hence, this could indicate the optimal city size.

However, it is not easy as that since a bewildering set of optima can be identified. Moreover, the meaning of benefits and curves is rather obscure. The economic and social benefits

of large relative to small cities appear stronger in developing than in developed economies. Furthermore, the social costs probably remain lower in developing countries despite increase in pollution, congestion, etc. Thus, there has been a basis for arguing that the hypothetical critical city size that provides maximum net benefits, if these could be measured, would be greater in developing countries. (Richardson, 1977).

It must be recognized that the urbanization process is very often accompanied by rapid growth in income and employment and that it might not be in the interest of the concerned countries to stop economic growth of cities like, for example, Mumbai. Further, it is increasingly being realized that it is impossible to stop or arrest migration into cities even though it may be desirable to do so. It is more likely that it is possible to influence the growth pattern of urban areas in a desirable manner by a reorientation of land-use policies in such a way that the city grows into an organic and vital agglomeration node.

Historically, land-use planning has been an important component of the urban planning process. However, in the traditional framework of policy making (based on standard economic theory); there are assumptions which no longer hold. Firstly, it is assumed that there is absence of space as a result of which households, firms and governments choose only one location with the result the role of land-use planning has often been underplayed if not overlooked completely. But it is well recognized that space is not only an input in production but it is also an important element for locational planning of economic agents and also an important source of local authorities to finance city development. Land –use decisions invariably introduce strong convexities in consumer preferences and production technologies. Secondly, the essence of urban areas is that there is an agglomeration of many people and firms in close quarters. This introduces an element of non-price competition which complication operation of the free market process. Further, high densities of population, traffic congestion, provision of public services involve externalities. Besides, existence of space between

locations means that producers of local goods (both public and private sectors) can be monopolies. All these problems suggest that urbanization issues are complex and that an approach different from the past needs to be adopted to provide meaningful solutions. We now look at the trends in urbanization in the Indian context and examine their implications on transport related issues.

2.1 Urbanization Process – Emerging Trends in India

In India out of the total population of 1210 million, in 2011, about 377 million persons lived in urban areas. The proportion of urban population has increased from 19.9% in the year 1971 to 27.8% in the year 2011. The decadal growth of urban population was 31.8% in 1991-2001. At the country level, natural increase has been principal source of urban population growth. The contribution of rural-urban migration ranges between 19 to 21 percent of the net increase in urban population (Table 1).

2.2 Projected Urban Populations

The Registrar General of India has projected total and urban population India and states. It is interesting to know

Table 1: Composition of Urban Population Growth in India, 1961-2011

	1961-71	1971-81	1981-91	1991-2001	2001-2011*
Urban population increase (Million) Out of which	30.18	49.45	56.45	67.81	90.98
Natural Increase (Million)	19.68 (65.2)	25.56 (51.3)	35.37 (61.3)	40.17 (59.4)	53.95* (59.30)
Net R-U Migration (Million)	5.91 (18.7)	9.83 (19.6)	12.76 (20.7)	14.32 (20.9)	18.18* (19.98)
Residual Component (Million)	4.59 (16.1)	14.06 (29.1)	8.32 (18.0)	13.32 (19.7)	18.85* (20.72)

1. Source: Census of India, 1961 to 2011. 2. Figures in parenthesis are in per cent
** Estimated figures.*

that 67% of total population growth in India in next 25 years is expected to take place in urban areas. Urban population is expected to increase from 286 million in 2001 to 534 million in 2026 (38%) (Table 2). Of the total population increase in population, 50% during the period is likely to occur in seven less developed states, namely, UP, MP, Rajasthan, Bihar, Chhattisgarh, and Jharkhand. But urban growth is going to take place in states of U.P., Maharashtra, Tamil Nadu, and Gujarat and these will contribute over 45% of urban growth over coming 25 years.

Table 2: Projected Urban and Total Population in India – 2011, 2021 and 2026

Item	2001	2011	2021	2026
Total Population (million)	1028.61	1210.19	1339.74	1399.83
Urban Population (million)	286.12	377.10	432.61	534.80
Urban (%)	27.82	31.16	32.29	38.21
Total AEGR (%)	1.63	1.35	1.23	1.16
Urban AEGR (%)	2.24	2.30	2.50	1.89

Source: Population Projections for India, 2021-26, Registrar General of India, 2006
AEGR- Annual Exponential Growth Rate

Urban India will continue to concentrate in 1 million and above cities. Moreover, as per UN-Habitat (2008), eleven cities, namely, Ahmadabad, Bangalore, Kolkata, Chennai, Hyderabad, Mumbai, Pune, Seurat, Raipur and Kanpur will have population over 4.0 million in 2025 and these Mega cities will have total population of 127 million (over 24% of total urban population) It is pertinent to note that in the Western Region, there will be four Mega cities and the corresponding number in Northern and Southern Regions will be three each. But in the Eastern Region, Kolkata will continue to be the only Mega city. In terms of urban population distribution, India will be mainly dominated by the 11 states identified as first group and 11 Mega cities. This feature has important implications for future urban related transport policies in the country. We now take up a case study of the emerging

Table 4: Projection of Population in Mega Cities in 2026 (in millions)

City/UA	2001	2011	2025	Region
Mumbai	16.36	22.48	26.38	West
Ahmadabad	4.51	7.21	7.73	West
Pune	3.75	9.43	6.79	West
Seurat	2.81	6.08	5.70	West
Chennai	6.42	4.68	10.12	South
Bangalore	5.68	9.59	9.71	South
Hyderabad	5.53	4.01	9.09	South
Delhi	12.79	16.75	22.49	North
Kanpur	2.69	4.57	4.60	North
Raipur	2.32	6.66	4.29	North
Kolkata	13.21	14.49	20.56	East
Total	76.07	85.95	127.49	

Source: Census of India, 2001 and World Cities, UN-Habitat, 2008-09
Note: Mega city is defined as Cities with population above 4.0 million.

transport situation in Mumbai particularly in terms of the developments under the Mumbai Urban Transport Project (MUTP) II with a view to examine the nature and the dimensions of the governance issues involved there in.

3. Mumbai Urban Transport Project (MUTP) II

3.1 Background

The World Bank initiated a comprehensive transport study (MMRDA, 1994) to examine the transport issues of the Mumbai Metropolitan Region with a view to identify the most urgently required facilities. Projections showed that the population of Mumbai was expected to reach a figure of 22 million by the year 2011. While formal sector employment was not expected to grow substantially, the informal service sector employment was going to be important and was expected to comprise 30% or more of the overall gainful employment activity. Even though the growth in population was not going

to be substantial in the island city and most of the demographic growth would be in Navy Mumbai, Kalian, Thane and other adjoining regions, the fact was that bulk of the new jobs would be created for most people in places away from their residential places. This movement could determine the nature of the traffic flows in the coming years. By using a strategic transportation computer model and working through various investment options, the study (MMRDA, 1994) determined that overall travel demand would grow by 51 per cent in line with the population growth and rising incomes. The model showed that the centre of gravity of traffic and rail passenger demands would be to the north of Bandra and Kurla respectively on the Western and Central Railway systems. To meet this kind of future traffic needs, the study considered four alternatives – a "do minimum" strategy and three investment options. The investment options included two rail based options (comprising combinations of enhancement of existing corridors and construction of new corridors) and one road oriented option. All strategies were evaluated using economic, social, environmental and performance criteria. The preferred strategy and a related short term implementation plan were then developed. The preferred strategy was to strengthen the public transportation system and put in place appropriate demand management measures in congested parts of the region like the island cit of Mumbai.

3.2 The context of the MUTP II (henceforth MUTP)

The World Bank has been working in close coordination with the Government of India on major development issues. The Bank had noted that the role of the cities in the national economy is extremely important, as the share of the urban GDP over national total has grown from 50% in the early nineties to 60% in 2000. However, this urban growth has also been accompanied by a shift of poverty from the rural to the urban areas. Transport is a crucial component of infrastructure and services. Poor transport, especially in the urban areas, has, for quite some time now, acted as a hindrance to the growth process as it deprives the poor of

opportunities to work. Urban job opportunities, especially of the unskilled type, are location specific and the poor can hardly afford to stay in job-creating neighborhoods. However, the poor, inadequate transport infrastructure also creates obstacles in the work cycle of economically productive human resources in the urban areas. This was the context in which the World Bank decided to part-fund and helps implement the Mumbai Urban Transport Project II.

A primary development objective of the project was to facilitate urban economic growth and improve quality of life by fostering the development of an efficient and sustainable urban transport system including effective institutions to meet the needs of the users in the Mumbai Metropolitan Region. The achievement of this development objective would be measured through the ability of the project to (i) meet user needs; (ii) improve system efficiency; (iii) bring about sustainable improvements; and (iv) make institutions more effective.

The highest priority issues to be addressed by the project related to the capacity and speed of rail services; decision-making for rail services; resettlement and rehabilitation (including land acquisition). The next set of priorities comprise of East-West connectivity, traffic management, and road safety. Equally important issues but of a lower priority are bus services, controlling pollution from motor vehicles, enhanced road maintenance, introduce limited involvement of stakeholders, remove institutional weaknesses and provide funding.

3.3 Governance Issues

The MUTP has been an extremely complex project – both in formulation but more so in implementation and much more it would be to sustain. The World Bank with their experience played a big role in designing the project; what it could not do, however, is to select an agency that could implement this complex project efficiently. This was the biggest risk in MUTP. The risk analysis of the project by the World Bank team notes, "Cooperation between various stakeholders of the project and

from other government departments is weak". The project also noted that this risk would be mitigated by the creation of a High Power Steering Committee and a Project Coordination Committee.

Even a cursory examination of the existing administrative structure as it has evolved reveals that there has been virtually no coordination between the agencies involved in management of traffic in Mumbai. The Municipal Corporation had no set-up to deal with the road traffic issues till under the conditionalities of the MUTP, the Municipal Act was amended so that a Traffic Management Unit (TMU) could be set up in the Corporation. As of today, it is the Police Department that manages the traffic – only as a reactive measure; they have no sense of carrying on a traffic survey from time and time and suggest policy changes, particularly on the modal issues. Similarly the railway component, the most important component was to be handled by a new Corporation MRVC because the existing system will not allow the execution of what MUTP envisages. However, the understanding in many quarters is that MRVC is merely to be involved in carrying out construction railway projects under MUTP and not to be involved in operations at least for quite some time to come. But what needs to be done as a first step is to provide treatment of the suburban rail system as a distinct entity (maybe MRVC) with clear earmarked allocation of fixed assets, semi variable and variable costs that are attributable and imputable under transparent costing principles. In other words, the suburban railway system ought to be accorded autonomy as a separate accounting unit. It is our considered view that the proposed institutional changes have not been adequate in establishing a rational transport operations and management system in the Mumbai Metro region even though it may have been adequate to implement the current MUTP. This has been emphasized in the National Urban Transport Policy (GOI, 2006) announced in 2006. What Mumbai needs is a statutory Transport Authority that will not only execute similar projects in the future but will actually be on top of the problem on a continuous basis and

come up with planning, policy changes and implementation ideas as the situation become more complex and difficult. Though an Urban Mass Transit Authority is in place (created by an executive order), activities have largely remained on paper. Moreover, it is not at all clear (from whatever is available by way of documents brought out in this regard) what it's mandate is. But the project afforded an opportunity to reform the system effectively but that was simply missed out.

4. An Alternate Model of Urban Governance

4.1 Introduction

The ultimate outcome of any model of urban governance should be judged by one criterion – how it deals with the problem of urban service delivery. If we have to build a model, we must define what is it that we are trying to achieve. Clearly, the problem of urban service delivery cannot be seen as the problem of one organization and then focus on methods to mend that organization. At the heart of it all is the issue of public sector efficiency. Constraints on urban service delivery are not because of lack of resources or any technical inefficiency as we have seen, but because of the much larger issue of relationship between the Central, State and the Local governments. If our definition of the problem is right, then the response in the political economic theories is pretty straightforward. The government has three main roles: one, to maintain macro stability, two, to redistribute income and three, to allocate resources rationally. The first two are the responsibilities of the Central government and the third one is the responsibility of the State or sub national government. Governments allocate resources basically to deliver some public goods; now if the taste and preferences for particular services are confined to local jurisdictions, this framework will insist that such services should be sourced and priced at the local levels. It is local level politics and economics that will be appropriate to promote the efficiencies of the market in the delivery of the public services.

4.2 The model in the real world

That is theory all right but we live in the real world. We need to have a model that not only approximates our concerns but also indicates a plan of action, which is practical within the framework of existing political, economic and social realities. The problem with the political-economic viewpoint is that it assumes that the best way of achieving efficiency in public service deliveries is that we allocate the resources and equip the right level of government and the problem is solved. But it ignores the high administrative costs, which the system will have to bear if every agency creates the public goods and then delivers it to the people. It is much better if the local governments act not only as a provider of basic services but also as an agent of the central and then state governments in case of some other services. In the industrial economies, for example, most of the major capital expenditures are done outside the local governments: building and maintenance of roads, water supply provisions and solid waste management. The private sector is involved in these activities. What the local government does is to make sure that the services are provided subject to certain standards. They also ensure that the cost recovery is effective and that the providers are compensated. Local governments also perform the agency function on behalf of the central and provincial governments for many of their functions. The point, however, is that all these activities are to be properly defined and the local authorities are to be adequately compensated.

4.3 Model of Urban Governance

This brings us to the question of governance of cities. As manufacturing became expensive in the older cities and unemployment started to rise, the government started to pump in money in the form of subsidies to the ailing industries. This happened in the developed as well as the developing countries. But this did not work because the decision was based on wrong economic premises. This was the time when the national, sub national and the city governments were forced to look for more pragmatic and flexible options. This emerged in the form of administrative

and financial decentralization to reduce the burdens upon the Central government (and its budget) and diversify the range of agencies supplying those services, which were formally provided exclusively by the government. But with increased responsibilities, it also became necessary to strengthen the capacities in the urban local bodies. The urban projects that agencies like the World Bank and the United Nations started supporting in the nineties became more focused on soft technical assistance programs rather than the old hard physical projects that they funded during the earlier periods. Based on continuing research and appraisal of the needs of the urban local bodies, the World Bank formulated a strategy in mid-nineties for urban governance. Roughly, the policy framework and the strategy had the following parameters:

1. The developing countries, the international community, and the World Bank should move toward a broader view of the urban issues, a view that moves beyond housing and residential urban issues, a view that emphasizes the productivity of the urban economy, and the need to alleviate the constraints on productivity.
2. With urban poverty increasing, the productivity of the urban poor should be enhanced by increasing the demand for labour and improving access to basic infrastructure and social services.
3. More attention should be devoted to reversing the deterioration of the urban environment, an issue receiving short shift in the face of global environmental problems.
4. The serious gap in understanding urban issues must be closed. With the decline in urban research during the 1980s, few countries have a sound analytical basis for urban policy. This needs to be changed.

This remains a valid model and is being employed in many countries of the world including India where the Constitution has been amended to delegate more authority to both the urban as well as rural local bodies. Whether this has succeeded is a moot point. Further, policy measures such

as those undertaken under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) which provides adequate incentives to urban areas to develop appropriately have fallen short of expectations particularly in the transport sector where basic reforms in regard to governance including regulatory issues have not been addressed appropriately let alone being implemented.

We now need to define the requirements of a good urban governance model in the context of India. The big picture is fairly clear: cities cannot be managed by remote control. The cities or rather the urban local bodies must have adequate financial, managerial and technical powers to deal with their issues effectively and efficiently. While we have tried to show that the whole issue of urban governance becomes reasonably clear when looked through the window of "environment", it is important that we also look at what the management gurus call "core competence". We are talking about the core competence of all the agencies that are responsible for providing the services that the citizens – the urban residents deserve and desire. We believe that the system is so well inter-connected that if the competence of the local government improves, that of the provincial and the central governments also improves – not necessarily in the same areas but in areas where each has a specific role. A good and strong central government does not mean a good local government – actually it may mean exactly the opposite but the reverse is uniformly true. A good local government does reflect, a mature democracy - with effective governance at central and state levels. We believe that in the newly emerging global economy, things of primary concerns to the citizens – transport, the schools and the hospitals and all other public services will have to be managed locally.

Today, there is a multiplicity of organizations trying to provide the services in urban areas. Their activities are uncoordinated and they are sector driven. Cross-sectoral issues between development, investment and environment are not addressed. For example, there is no dedicated authority to manage the transport requirements in the Bombay Metro

Region. We have already emphasized the need for such an Authority as part of the institutional development that is required to sustain the transport system in the Region on a sustainable basis. We now explain the rationale and outline the framework of such an Authority.

4.4 A Local Transport Authority in Mumbai

Project (MUTP-II) was expected to serve as a basis for some limited expansion of the rail system. A major component of the Project i.e. the expansion of rail capacity projects aimed at relieving congestion on the existing suburban rail system so as to make commuting comfortable and safe. This was to be attempted by provision of extra suburban rail capacity by segregation of suburban traffic from long-distance traffic. An economic evaluation of these projects conducted in 1999-2000 revealed that high returns could be expected in the corridor between Santacruz and Borivali and that between Kurla and Thane. However, the return on lines beyond Borivali was expected to be much lower. This evaluation considered the benefits that are expected to accrue to consumers in terms of waiting time, reduction in discomfort and also marginal savings in operating costs of vehicles of those who would be benefited by reduced congestion. However, what needs to be noted is that even after the completion of these projects, a rake would still be expected to cater to about 3000 users (on an average) which would definitely be lower than what is being handled today (in excess of 4000), but would still be higher than the carrying capacity of a rake, i.e. around 2000. (The possibilities of improving the efficiency of existing infrastructure and services should theoretically be considered in specifying the base case against which to assess additional capacity, which can generate benefits. In actual practice, it has always been easy to presume that greater efficiency can be expected and hence easy to examine capacity expansion on the basis of an over estimation of benefits). From a financial perspective, the evaluation pointed out to almost no return on investments from any of the projects. To generate a financial return of 15 per cent, it was found that very steep hikes in fares would be required. Obviously, the revenue gap

that could arise would have to be taken care of by other means.

In the context of BEST, we have already referred to the cross-subsidisation of bus deficits by surpluses of the electricity division. With a growing inability to pass on tariff increases continuously and indiscriminately in the electricity sector, it has been found that the range for discrimination of tariffs has narrowed down. The BEST has, it appears, finally become a victim of such a process whereby it will no longer be able to tap the consumer surpluses of electricity consumers to derive surpluses. Further, one also needs to take into consideration the implications of the provision of the Electricity Act of 2003 relating to cross-subsidisation. Under section 51 of the Act, it is provided that the distribution licensee (which is what BEST is) shall maintain a separate account for each business undertaking to ensure that the distribution business neither subsidises in any way such business undertaking nor encumber its distribution assets in any was to support such business. Accordingly, surpluses generated by the Electricity Division will not be available for subsidizing the Bus Division. Moreover, tariff is vested with an appropriate regulatory commission. With competition and controls of a regulatory authority, the amount of surpluses generated by the Electricity Division can be expected to come down considerably. This fear has receded with a recent decision of the Supreme Court to consider this a special case. In the present framework, deficits can still be met by transferring surpluses from other budgets of the Municipal Corporation to BEST. However, the independence in relation to all aspects of functioning of BEST that has been ensured till now may no longer be feasible. It is in this context, that organizations like the BEST, which though within the framework of the Municipal Corporation of Greater Mumbai, needs to be supported. In recent years, when the organization has faced deficits (in an overall sense), capital requirements have been met partly by accessing the capital market in terms of long-term borrowings. However, this has been very limited. Accordingly, only replacements provided through depreciation

have been attempted to be ensured. But the expansion of the network (Electricity and Bus Divisions) has suffered (Sriraman and Mukhopadhyay, 2003). Thus, in the case of bus transport also, the revenue gap is to be covered from other sources.

It is observed that institutional weaknesses are the sources of many failures in public service delivery in many urban areas including Mumbai. The need to integrate policies between several activities within an urban area, in general, and also within the transport sector, in particular, calls for an approach completely different from the past. In the context of the suburban rail system, it has been pointed out earlier that it would be preferable to have a local Authority to deal with the provision of transport facilities given the localized nature of benefits and the intrinsic inter-dependence with other transit modes like the bus system.

4.6 Elements of a Framework of Such an Authority

Such an Authority would enable the system to cater to the diversified transport needs through a harmonized unified system of transport output mix. It is most likely that such a system would respond to changing local needs and preferences, flexibly and receptively. Further, the authority need not be bound by other constraints arising out of national or state considerations. Assuming that this idea is accepted, the relevant issues that emerge are as follows:

- Identifying the optimum area under the Authority
- Sources of finance

Evidently, in the context of the Mumbai Metropolitan Region, the area of the Authority cannot be coincidental with that under one local government. In fact, is should compass areas under several local bodies pooled together.

The question of finance is complex and calls for innovative methods. As suggested earlier, the issue is one of identifying beneficiaries within the Region, who should be made to pay for the maintenance and growth of the system. The beneficiaries can be broadly classified as:

- Users *per* se
- Employers of the users
- Property owners in the Region
- Users and occupants of lands/ buildings
- Local authorities like municipal corporations, councils, etc.

These groups taken together should pay for the costs of efficient operations of the system. Users *per* se pay directly for services. Setting public transport prices and raising the necessary finance raises problems due to multiple objectives faced by decision makers. The primary objective is to generate revenues that can ensure an efficient and adequate supply of services. In typical bus operations, over 90 percent of costs vary with respect to either the number of vehicles employed or the number of bus kilometres run. Short-run marginal cost pricing would nearly cover full cost. The same is not the case for rail systems where typically only 50 or 60 percent of costs are directly related to the service provided. In such conditions, the most efficient may involve different levels of total cost coverage by the modes and transfers between them. But public transport pricing may also be expected to help in reducing congestion, to provide for efficient coordination between public transport modes, etc. In order to be able to do this, user prices cannot be expected to cover its full costs. We have already pointed out this issue both in the context of the suburban rail system and the BEST. The other beneficiaries maybe expected to pay for the rest of the costs. The present system hardly provides for such alternative methods of financing. These can be explored and exercised more easily and accurately by a local transit authority. With the establishment of the Special Purpose Vehicle- the Mumbai Rail Vikas Corporation, it was expected that the first step towards the constitution of a local transit authority had been taken. However, this does not seem to be the case since the organization has been merely involved in carrying out the construction of railway projects under MUTP-II and not in the operations of the system. What needs to be done as a first step is to provide for treatment of the suburban rail system as a distinct entity (maybe that is what MRVC should be)

with clear earmarked allocation of fixed assets, semi-variable and variable costs that are attributable and imputable under transparent costing principles. In other words, the suburban rail system ought to be accorded autonomy as a separating accounting unit.

It is widely recognised that despite all the limitations posed by the budgetary process (resulting from being a constituent unit of the Municipal Corporation), the BEST has been able to maintain its independence in the provision of quality services. Besides the relative independence in terms of the budgetary processes, the fact that it is a professional organization with a fairly high standard of governance is another factor (perhaps the more important one) responsible for its efficient functioning. The two dimensions have perhaps acted on each other to give rise to an outcome vastly different from that found in other typical municipal transport corporations. However, as pointed out earlier, the organization needs support and this could perhaps be derived best within the framework of a local authority that we have proposed.

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Om Prakash Mathur

Urban Poverty in India: An Assessment

Introduction

An extraordinarily large amount of work has been done in India on what poverty is, what measures it, and what distinguishes the poor from the non-poor. A review of the work shows that while the subject continues to be highly contentious, there exists a broader acceptance of the view that poverty reflects the inability of an individual to satisfy certain basic minimum needs. The inability is expressed in terms of a level of expenditure or income that is considered necessary to satisfy those minimum needs: those who are not able to attain that level of expenditure or income are counted as poor and others as non-poor. Among the attempts that have been made to determine what those minimum needs are and what is the money equivalent or the level of expenditure corresponding to those needs, include the reports of the Nutrition Expert Group of the Indian Council of Medical Research (1968) and the Task Force on the Projection of Minimum Needs and Effective Consumption Demand (1979). The Nutrition Expert Group laid down the per capita calorie norms for population differentiated by age, sex and the nature of work; the Task Force on the Projection of Minimum Needs and Effective Consumption Demand used these norms to work out the average calorie requirements, separately for rural and urban areas, and their monetary equivalents by using the household consumption expenditure data of the 28th round (1973-74) of the NSSO surveys. Using appropriate conversion factors, the Task Force estimated that on an average, Rs. 49.09 per capita per month satisfied a calorie requirement of 2435 per capita per day in the rural

areas, and Rs. 56.64 per capita per month satisfied a calorie requirement of 2095 per capita per day in the urban areas, both at 1973-74 prices. These levels of expenditures have formed the basic poverty lines in the country, and been used in all official estimates with suitable adjustments for price changes (Table 1). In addition, several scholars have made independent assessment of poverty, and arrived at conclusions that are at variance from the official estimates; interestingly, such assessments do not question the conclusions but only the rate at which poverty incidence has shifted over time.

Table 1: Monetary Value of the All India Poverty Line, Urban

Year	Monetary value corresponding to the poverty line (Rs.)
1973-74	56.64
1983	115.65
1993-94	281.35
2004-05	538.60

In addition to the poverty line so established, slum settlements represent the visible manifestations of poverty in the country's cities and towns. The Census of India, 2001 undertook, for the first time, a countrywide count of population in slum settlements. As the Census Commissioner notes: "It is for the first time in the history of Census in the country that the slum demography is presented on the basis of the actual count". There are thus no time series that indicates whether the slum population in the country has risen or declined. The National Sample Survey Organisation (NSSO) periodically undertakes surveys that provide data on the access of slum dwellers to basic services. This Paper looks at both the trends in urban poverty as per the NSSO data and also the demography of slums as provided in the Census of India's "Slum Population".

The core of the analysis of poverty trends as contained in the vast amount of literature is that absolute poverty in India measured in terms of the numbers of the poor and the

headcount ratio is large and widespread, and accounts for close to one-third of the world's poor, but has registered a fall over the past three decades. The numbers of the poor have fallen from 321.3 million to 301.7 million and the headcount ratio from 54.9 percent to 27.5 percent over the 1973-74 – 2004-05 period. Rural poverty – poverty in India remains disproportionately rural at the aggregate level – has also declined in terms of the numbers as well as the headcount ratio. *In comparison, the evidence on urban poverty is mixed: its incidence measured by the headcount ratio has dipped from 49 percent in 1973-74 to 25.8 percent in 2004-05, but the numbers of the urban poor have risen from 60 million to 80.8 million persons, and the share of urban poor in the total from 18.7 percent to 26.8 percent over the 1973-74 to 2004-05 period.*

Table 2: Urban Poor: Numbers and Headcount Ratio

Year	Combined		Rural		Urban	
	Number (million)	Headcount ratio %	Number (million)	Headcount ratio %	Number (million)	Headcount ratio %
1973-74	321.3	54.9	261.3	56.4	60.1	49.0
1983	322.9	44.5	251.9	45.7	70.9	40.8
1993-94	320.4	36.0	244.0	37.3	76.3	32.4
2004-05	301.7	275	220.9	28.3	80.8	25.7

Further extension of the analysis shows that while the headcount ratio of urban poverty has been on a declining curve, the average rate of decline has slowed down in the most recent decade of 1993-2004. Moreover, urban poverty, both the numbers of the poor as well as the headcount ratios, have shown an upward trend in such states as Orissa and Rajasthan; several other states have posted a rise in the numbers of the urban poor. These facts, i.e., tapering off the average rate of decline in the headcount ratio and the rising numbers of the urban poor in several states, combined with the fact that the same period witnessed a substantial fall in the headcount ratio of the rural poor, have been used to argue

that poverty in India may be shifting towards cities and towns, and continuation of these trends could well push India into "urbanization of poverty" syndrome. Other facts such as a high poverty gap for urban India (5.9 percent in 2004-05) in comparison with the poverty gap of 5.5 percent for rural poverty are also used to buttress the argument that poverty reduction strategies have made far less impact on urban poverty. A World Bank study also notes that "urbanization of poverty in India is underway although it is occurring at a relatively slow rate"[1].

2. Urban Poverty: An Assessment

This Paper underlines a few facts that are vital to formulating a national urban poverty reduction strategy and analyses the trends further to test out if poverty in India has begun to urbanize itself and if urbanization and urban-led economic growth have in any way been exclusionary in nature. These have important implications for developing a poverty reduction strategy. The following are the key facts:

(i) *Urban poverty in India is large and widespread.* In 2004-05, 80.8 million people out of an estimated urban population of 309.5 million person were below the poverty line in that their per month consumption was less than Rs. 538.6. These numbers constitute a significant proportion of the world's total urban poor estimated at 291.4 million[2]. Over the past three decades (1973-2004), the numbers of the urban poor have risen by 34.4 percent and the shares of the urban poor in the total from 18.7 per cent in 1973 to 26.8 percent in 2004-05. In comparison the numbers of the rural poor have registered a 15.5 percent decline over this period. In addition, about 40-45 million persons are on the border line of poverty. This process has meant increasing share of the urban poor in the total

(ii) *The headcount ratio of urban poverty has declined steadily over the decades but its rate of decline is lower than that of rural poverty*. From about 50

Table 3: Share of the Urban Poor in the Total

Year	Share %
1973-74	18.70
1983	21.97
1993	23.83
2004-05	26.78

percent of the urban population living below the poverty line in 1973-74, the proportion declined to about one-fifth of the urban population in 2004-05. Over the three decades, the headcount ratio of urban poor declined by about 47.6 percent; on an annual basis, the average rate of decline varied between 1.8 and 2.3 percent. What has attracted attention is the slowing down of the rate of decline in the decade of the 1990s, compared to the period 1983-1993. What has also been noted by scholars is that the rate of decline in urban poverty has lagged behind that of rural poverty in recent decades.

(iii) *Non-wage, informal employment is a dominant characteristic of the urban poor households*. In 2004-05 between 72 and 82 percent of the usually employed male urban poor and between 78 and 80 percent of the usually employed female urban poor were reported to be either self-employed or casually employed. Wage employment among them is limited to just about 20 percent compared to an All-India average of about 40 percent. It is this fact that imparts a high degree of instability to the income profile of the urban poor, and restricts their access to any form of institutional and market finance.

(iv) *Progress in terms of reducing the incidence of urban poverty has been highly uneven in the country, with a little over 40% of the urban poor concentrated in the states of Bihar, Madhya Pradesh, Orissa, Rajasthan, and Uttar Pradesh*[3]. Moreover, the NSSO

data show that concentration of poverty has intensified in these states, with the proportion of the urban poor registering an increase from 31.1 percent in 1973-74 to 42.0 percent in 2004-05. On the other hand, urban poverty has declined much more impressively in states such as Gujarat and Punjab; in Kerala and Tamil Nadu, urban poverty was higher than the all-India average in 1983 but declined to well-below the national average in 2004-05. Thus, the evidence is both a significant decline in some states, and noticeable increases in others.

The NSSO surveys provide the base for estimating poverty levels and gaps; the base also permits an analysis of the pattern of consumer expenditure. The surveys, however, do not shed light on who the urban poor are, what they do, and where they live. Absence of such basic information represents a serious handicap in designing poverty alleviation programmes, that can be focused on them.

(v) *Slum settlements – often referred to informal settlements without any formal title - represent the most visible manifestation of poverty in urban India.* The 2001 Census puts the slum population at 42.6 million which forms 15 percent of the country's total urban population and 23.1 percent of population of cities and towns reporting slums. The Census further reports that slums are an urban phenomenon confined to big-town and cities, supporting it with the fact that 41.6 percent of the total slum population resides in cities with over one-million population. *Informal settlements occupy one-third of the large city spaces: 34.5 percent of the population of Mumbai, Delhi, Kolkata, and Chennai live in slum settlements.* The slum settlements have a higher proportion (17.4 percent) of scheduled castes compared to non-slum settlements. Also, expectedly, the literacy level of slum population is lower, 73.1 percent in comparison with 85 percent for rest of the urban population.

Table 4: Distribution of the Urban Poor – State-wise Percentage

States	1983	1993-94	2004-05
Andhra Pradesh	7.1	9.8	7.6
Assam	0.6	0.3	0.2
Bihar*	6.3	5.6	5.6
Delhi	2.5	2.0	2.8
Goa	0.2	0.2	0.2
Gujarat	6.3	5.6	3.4
Haryana	1.1	1.0	1.3
Himachal Pradesh	Neg.	Neg.	Neg.
Karnataka	6.9	7.9	7.9
Kerala	3.5	2.7	2.1
Madhya Pradesh*	8.8	10.8	11.6
Maharasthra	13.7	14.7	18.1
Orissa	2.4	2.6	3.3
Punjab	1.7	1.0	0.8
Rajasthan	4.2	4.4	5.9
Tamil Nadu	11.1	10.5	8.6
Uttar Pradesh*	15.3	14.2	15.6
West Bengal	7.1	5.9	4.3
Others	0.5	0.4	0.4
Total (million)	**70.9**	**76.3**	**80.6**

* The poverty data for Jharkhand, Chattisgarh and Uttarakhand are included with that of Bihar, Madhya Pradesh and Uttar Pradesh.

3. Is Poverty Urbanizing in India?

Urbanization has occurred in India at a *modest pace*, an annual exponential growth of 2.74 percent during the census decade of 1991-2001 and 3.09 percent in the earlier decade of 1981-91. It has a few important features:

(i) Rural-urban migration is not a dominant factor in the country's urbanization process. During 1991-2001, it contributed just about 20-21 percent to the

urban population growth in the country, with much of the increase in urban population occurring as a result of the excess of births over deaths. In the earlier decade too, the share of rural-urban migration was roughly the same. Thus, urban poverty in India is not necessarily a product of urbanization associated with rural-urban migration, but could well be linked with urban population growth occurring as a result of the excess of births and deaths,

(ii) there is increasing concentration of urban population in comparatively larger cities; 68.7 percent of the total urban population is reported to be in cities with over 100,000 population (2001 Census), the shares of medium-sized and small towns being 21.9 percent and 9.4 percent respectively. Such concentration is expected to continue in the future; and

(iii) the pattern of urbanization is diverse in India, with several states having attained an urbanization level of over 40 percent and others still to reach the 1951 level of urbanization.

Urbanization of poverty, this paper postulates, is a phenomenon where the rate of increase in the numbers of the poor is higher than the rate at which urban population grows. According to Martin Ravallion, the urban sector's share of the total number of poor is an increasing convex function of the urban share of the total population. It is also possible to analyse it by calculating the effect of x percent increase in the rate of urbanization on the numbers of the urban poor. The following two tables give the results of the exercize, the first table indicating the proportion of the net increase in the numbers of the urban poor to the net increase in urban population, and the latter giving the elasticity of urban poverty to urbanization. The two tables do not provide any robust evidence of either the urban poor being a major component in the urbanization process – in fact, the proportion of the urban poor in the net increment to urban population has declined significantly over the decades, or of

Table 5: Urbanization and Urban Poverty

Year	Net increment (million)		Net increment in the numbers of the urban poor to net increase in urban population
	Urban population	Urban poor	%
1973-83	51.4	10.9	21.2
1983-1993	61.7	5.4	8.8
1993-2004	78.8	4.5	5.7

Table 6: How Sensitive is Urban Poverty to Urbanization

Period	Elasticity of Numbers of Urban Poor to Urban Population	Headcount Ratio
1973-83	0.476	-0.523
1983-93	0.214	-0.758
1993-2004	0.197	-0.803

the numbers of the urban poor being sensitive to the urbanization processes.

4. Urban Poverty in India's Planning Framework

Public policy instruments to urban poverty alleviation fall into two categories: (i) indirect instruments which use resources to accelerate growth and employment, and impact on the living standards of the urban poor; and (ii) direct instruments i.e., those which rely on public provisioning of shelter, services, and employment and skill upgradation. The primary distinction between the two categories is that the former focuses income generation and hence consumption, while the latter is directed to providing consumption via transfers and subsidies. The former relies on trickle down effect of growth across income groups, and the latter are designed to produce productivity-enhancing effects from publicly provided services.

Many scholars have sought to explain within the scope of such a framework on how poverty and immiseration are

produced, focusing attention on the relationships between economic development, urbanization, social change, and the exercise of political power as it impinges on the poor[4]. Still others have attempted to trace, within the public policy framework, connections and linkages between exchange rates, monetary policies, interest rates and poverty[5]. Recent years have begun to produce a debate on why decentralization may be good for the poor and why it may hurt them.

Poverty removal as an **explicit** variable entered into India's development strategy during the Fifth Five Year Plan (1974-79). It noted that despite gains of economic development and improvement in the living standards, "large numbers have remained poor". It stressed the need to raise the share of the bottom 30 percent in total private consumption, and sought to reduce the incidence of poverty **via** economic growth processes, and highly selected programmes such as the Minimum Needs Programme (MNP), public procurement and distribution of public goods, and employment for selected backward groups. The Fifth Five Year Plan made **no** distinction between rural and urban poverty.

The Sixth Five Year Plan, 1980-85 marks the commencement of a more definite approach to poverty alleviation in the country. It recognized the limits of "income growth" approach to reducing the incidence of poverty, and observed that "it will not be realistic to rely only on the growth processes to find a solution to the problem". Placing a high priority on poverty issues, the Sixth Plan laid emphasis on (i) identification and measurement of the levels of poverty, (ii) development of realistic targets, and (iii) formulation of specific programmes to meet the targets. Using the norms recommended by the Task Force on the Projection of Minimum Needs and Effective Consumption Demand (1979), and utilizing the NSSO household consumption expenditure data, the Sixth Plan observed that nearly 50 percent of the country's total population were living below the poverty line. The Plan identified specific poverty groups and pointed out that with growth and distribution policies and specific programmes, it should be possible to substantially bring down

poverty incidence in the country.

The Seventh Five Year Plan, 1985-90 constitutes the first conscious attempt to **directly** address urban poverty issues. There are two features of the Seventh Plan approach that need to be especially noted. One: it takes explicit note of the growing incidence of poverty in the urban areas, manifest in (a) the rapid growth of slums caused by persistent rural-urban migration, and (b) overcrowding in the informal sector; two: it accordingly places emphasis on improving the living conditions in the slum areas. In line with this approach, the Seventh Plan proposed multi-pronged strategies for improving the access of the urban poor to basic services, providing gainful employment to the unemployed, and raising the earnings of those in low-paid jobs.

This approach as laid out in the Seventh Plan led to the launching of two programmes aimed at directly assisting the urban poor, namely, the Urban Basic Services (UBS) and the Self Employment Programme for the Urban Poor (SEPUP). The Eighth Plan, 1992-97 reinforced the employment thrust of programmes meant for the poor by replacing SEPUP with putting a new employment programme, called the Nehru Rozgar Youjna (NRY), and enlarged the scope of the urban basic services programme (UBSP).

The Ninth and Tenth Five Year Plans continued to build on and reinforce the strategies contained in these programmes. Urban poverty related programmes taken up in the preceding plan periods have been continued, albeit under different nomenclature, with at best a cosmetic shift in substance. At the beginning of the Tenth Plan (2002-07), various schemes – the National Slum Development Programme (NSDP), Swarna Jayanti Shahri Rozgar Yojana (SJSRY), VAMBAY, a programme of building of night shelters, accelerated urban water supply (AUWSP), and low-cost sanitation were in place to provide a range of services to the urban poor including the slum-dwellers. Many of the schemes here included identification of the urban poor, formation of community groups, self-help thrift and credit activities, training for livelihood, credit and subsidy for economic

activities, housing and sanitation, environmental improvement, community assets, wage employment, and convergence of services.

Frequent changes have been made in the make-up and composition of the programmes as well as the institutional frameworks for implementing them. Employment-related programmes have faced enormous problem of effective targeting; and many others of fragmentation and overlapped jurisdiction. It is noted that despite the crucial nature of the programmes, no systematic evaluation of any of the programmes has been carried out, with the result that there is no evidence on what works and what does not. The Tenth Five Year Plan, for instance, noted that monitoring of the urban poverty alleviation programmes has been ineffective, adding that the "understanding of the (urban poverty) programmes, their objectives and modalities relating to implementation has been weak and superficial, leading to inaction in many areas that are of vital concern to the urban poor"[6].

The Tenth Plan points to other deficiencies in urban poverty alleviation programmes, as well, a few of which are noted here:

- *failure to provide specific provisions in municipal laws for dealing with issues relating to the urban poor, slums, and economic planning for poverty alleviation etc., which flow from the Constitution (seventy-fourth) Amendment Act, 1992;*
- *failure to build capacities in municipal bodies to provide in the required services to slum communities and the urban poor;*
- *continuing uncertainty regarding institutional arrangements for slum improvement programmes, between the municipal bodies, development authority, slum boards, housing boards, and parastatals, and failure to provide a coordinating mechanism;*
- *failure to provide a "place for the poor in the town planning process"; and*

- *lack of a commitments to achieve a breakthrough in bringing slum dwellers out of the stigma and misery of living in slums, and instead use public funds for tinkering with the symptoms*[7].

5. Urban Reforms and the Urban Poor

The post-1991 era is marked by one of the most extraordinary shifts that have come about in India in the approach and thinking about cities and urbanization and the institutional and financial frameworks that should be in place for addressing issues of widespread urban poverty and other related urban issues such as the provision of shelter, services, infrastructure, governance, accountability and participation. The shift in approach and thinking stems, at least in part, from firstly, the need to realign the urban sector policies and programmes to the emerging macroeconomic context of the post-1991 period, and secondly, the growing importance of the role of cities and urban centres in the domestic economy reflected in their contribution to the country's gross domestic product and urban productivity. Both these factors have led to a series of important initiatives and interventions comprising (i) Constitution (seventy-fourth) Amendment Act on Municipalities[8], (ii) capital market financing of municipal infrastructure, (iii) Urban Reform Incentive Fund (URIF), (iv) the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and (v) Rajiv Awas Yojana. The Constitution (seventy-fourth) Amendment, enacted in 1992, aims at empowerment of municipalities, via provisions that relate to the constitution and composition of municipalities, electoral procedures, functional powers and responsibilities combined with an institutional mechanism for determining their fiscal and financial base, and establishment of a planning body to bring about an interface between rural and urban areas. The accompanying Schedule 12 (Article 243 W) comprising such functions as urban poverty and slum improvement opens up the functional space for municipalities, ending the period where they were responsible for the provision of local public and often some merit goods to assuming larger developmental and redistributional responsibilities. The Schedule 12

represents a major functional reform of municipalities in India.

Box 1

Expanding functional horizon of Municipalities

- Urban planning including town planning
- Regulation of land use and construction of buildings
- Planning for economic and social development
- Urban forestry, protection of the environment and promotion of ecological aspects
- Slum improvement and upgradation
- Urban poverty alleviation

The Jawaharlal Nehru National Urban Renewal Mission (JNNURM), launched in December 2005, reinforces the aims enshrined in the Constitutional amendment and complements it with reforms that would enable cities and towns in India to meet the contemporary challenges of maintaining and accelerating the GDP growth rate on the one hand, and increasing access of the urban poor to shelter and basic services such as water and sanitation thereby making cities "inclusive", on the other. It focuses on increasing local government efficiency, balanced with an increase in local accountability. The Mission is unique in that it combines a grants-in-aid component with urban sector reforms, whose purpose is similar to that of the economic reforms of the 1990s, i.e., eliminate those legal and statutory provisions that have constrained the functioning of the land and housing markets; do away with the pricing regime that impedes the flow of investment into urban infrastructure; undertake tax reforms particularly of property taxation so as to bring about fiscal viability among municipalities; safeguard the interests of the urban poor households by ring-fencing of municipal expenditures meant for them, and bring in accountability by putting in place disclosure and accountability laws and the like. The JNNURM requires that basic services including security of tenure be provided to the urban poor and that the budgets for basic services to the urban poor be earmarked (see

Box). Several other reforms such as the repealment of Urban Land (Ceilings and Regulation) Act, 1976 are also expected to contribute to poverty reduction.

Box 2

JNNURM Reforms Relating to the Urban Poor

- Internal earmarking, within urban local bodies, budgets for basic services to the urban poor
- Provision of basic services to the urban poor including security of tenure at affordable prices, improved housing, water supply and sanitation, education, health, and social security.
- Implementation of decentralization measures as envisaged in the 74th Constitutional Amendment Act.
- Enactment of a public disclosure law to ensure release of quarterly performance information to all stakeholders.
- Enactment of a community participation law to institutionalize citizen's participation and introduce the concept of the Area Sabha in urban areas.
- Earmarking at least 20-25 percent of developed land in all housing projects (both public and private agencies) for EWS and LIG category with a system of cross subsidization.

Taken together, the 74th Constitutional amendment and the JNNURM, signal a different approach to urban poverty bringing in several new dimensions in coming to grips with urban poverty issues. These initiatives raise and address such vital questions as what characterizes urban poverty; which tier of government is best suited to respond to urban poverty and deal with issues relating to slum improvement and upgrading; in what alternative ways should the developmental priorities of the urban poor be assessed and acted upon; what mechanisms and channels might be used for urban poverty alleviation strategies and programmes, given that these have redistributional attributes, and what

are the different ways for ensuring that there is no diversion of resources to the non-poor households. These are basic questions in formulating any approach to urban poverty.

A closer examination of these initiatives bring out several interesting features of the approach:

i. urban poverty and slum improvement and upgrading are best addressed at the level of the municipalities and, therefore, should form an integral part of their functional domain;

ii. urban poverty is not just inadequacy of incomes to be able to buy a fixed amount of calories, but it is equally represented by inadequate access to improved housing, water supply, sanitation, and above all **security of tenure.** It is also a manifestation of the constraints to the delivery of education, health, and social security services to the urban poor.

iii. the developmental priorities of the urban poor including their infrastructure and service needs should be determined by municipalities and incorporated in the City Development Plan (CDPs). Necessarily, these require a long term perspective and vision;

iv. identification of the developmental priorities of the poor needs to be a participatory, and not a top-down and "one-size fits all" process;

v. urban poverty alleviation strategies require multiple channels of financing, including a especially designed intergovernmental transfer system, and ring-fencing of such funds so as to minimize scope for their diversion to other uses.

Mention may also be made here of the National Urban Housing and Habitat Policy 2007, the Swarna Jayanti Shahari Rozgar Yojana (SJSRY), and the recently-launched Rajiv Awas Yojana. The Habitat Policy lays emphasis on insitu development of slums and preparation of a special action plan for slum dwellers with particular reference to the socially

disadvantaged groups of urban population. The SJSRY aims at:

- Promotion of gainful employment
- Supporting skill development in line with employment opportunities opened by the market, and
- Formation of self-managed community structures for developing employment strategies

The central approach of the Rajiv Awas Yojana is to redress the shortages of urban land, amenities and shelter that lead to the creation of slums. It explicitly recognizes that slums are a creation of faulty town planning, and that by assigning property rights to slum dwellers and brining them into the formal system would enable them to access adequate shelter and other amenities that are otherwise denied to them.

This is where the approach to urban poverty rests. A new strategy in the context of the 12th Five Year Plan is under formulation.

Notes:-

1. The World Bank. 2009. Perspectives on Poverty in India. Mimeo. Draft.
2. See Martin Ravallion. Ibid.
3. The poverty data for Jharkhand, Chattisgarh and Uttarakhand are included with that of Bihar, Madhya Pradesh, and Uttarkhand.
4. Jagdish Bhagwati. 1988. Poverty and Public Policy. World Development. Vol 16 # 5, pp 539-555.
5. The World Bank. 2001. World Development Report. 2000/2001. Washington D.C.
6. Planning Commission. 2002 Tenth Five Year Plan 2002-2007. Vol II, pp 627. New Delhi.
7. Tenth Five Year Plan. Ibid. pp 628-29.
8. The 74th Constitutional Amendment of 1992 was preceded by the Constitution (sixth-fifth) Amendment Bill, 1989. The 1989 Bill was defeated in the Rajya Sabha.

S.K. Singh

Slum Upgradation: Challenges & Strategies

1. INTRODUCTION

The word "slum" is often used to describe informal settlements within cities that have inadequate housing and squalid, miserable living conditions. They are often overcrowded, with many people crammed into very small living spaces.

These settlements lack basic municipal services such as water, sanitation, waste collection, storm drainage, street lighting, paved sidewalks and roads for emergency access. Most also do not have easy access to schools, hospitals or public places for the community to gather. Many slums have been unserviced and unrecognised for long periods, over 20 years in some cities.

Like all informal settlements, housing in slums is built on land that the occupant does not have a legal claim to and without any urban planning or adherence to zoning regulations. In addition, slums are often areas where many social indicators are on a downward slide; for example, crime and unemployment are on the rise.

Slums are also a significant economic force. In many cities, as much as 60 percent of employment is in the informal sector of the urban population. Today, more than one billion people in the world live in slums. In the developing world, one out of every three people living in cities lives in a slum.

UN-HABITAT defines a slum household as a group of individuals living under the same roof in an urban area who lack one or more of the following:

- Durable housing of a permanent nature that protects against extreme climate conditions.
- Sufficient living space, which means not more than three people sharing the same room.
- Easy access to safe water in sufficient amounts at an affordable price.
- Access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people.
- Security of tenure that prevents forced evictions.

2. REASONS FOR SLUM DEVELOPMENT

There are two main reasons why slums develop: **population growth** and **governance**.

2.1 Population growth

Countries around the world are urbanising rapidly as more people migrate from rural areas to the cities and natural population growth continues to occur. Today, more than half the world's population resides in urban areas. More than 90 percent of this urban growth is taking place in the developing world.

Urban migration happens for a number of reasons:

- *The pushing and pulling forces of migration.* Some people migrate because they are pushed out of their place of origin by factors such as natural disasters or sustained ecological changes. Others are pulled to a new destination by better job prospects, education, health facilities, or freedom from restrictive social or cultural realities.
- *Low incomes from agriculture.* Most people in rural areas work in the agricultural sector, which is highly dependent on weather. Also, rural land is limited, its fertility sometimes low or declining, land holdings are small, farm debts are high, and many households have become landless. As a result, overall rural incomes are low.

- *Better job prospects.* In comparison with rural areas, urban areas offer dramatically increased job opportunities. In addition, because urban cultures are often less constrained than those in villages, cities can also offer greater prospects of upward social mobility.
- *People know what cities can offer them.* Most migrants make a deliberate choice to stay or leave in rural areas. Improved transport, communications and links with earlier migrants have all made rural populations much more aware of the advantages and disadvantages of urban life, especially regarding job opportunities and housing.
- *Urban migration is often a survival strategy for rural households.* Sometimes, rural households split into several groups located in different places—rural areas, small towns, and big cities—in order to diversify their sources of income and be less vulnerable to economic downturns.

2.2 Governance

Another reason slums develop is bad governance. Governments often fail to recognise the rights of the urban poor and incorporate them into urban planning, thereby contributing to the growth of slums.

In addition, many countries simply cannot respond to rapid urbanisation quickly enough. People are coming to cities far faster than the planning process can incorporate them. Often, they find their own land and build a shack before the government has a chance to learn of their existence.

The attitude of a government towards urbanisation is also an important component. Some governments take a hostile approach to urbanisation. They believe that if they provide urban services to the poor, it will attract urbanisation and cause the slums to grow. The problem with this view is that very few people come to the city for water or services—they come looking for work.

In other cases, governments take more of a passive approach to urbanisation. They either do not have the planning tools to deal with the rapid urbanisation that is happening, or the tools in place are not sufficiently responsive to the reality on the ground.

3. STRATEGY FOR SLUM UPGRADATION/ PREVENTION

There are basic things a government can do to prevent new slums from developing. One is to recognise that urbanisation is going to happen. Sometimes governments believe that adopting alternative policies, such as focusing on rural development, will stop urbanisation. This approach is rarely effective.

Once the reality of urban growth is accepted, the next step is to plan for it and determine where the new residents will live. Authorities should identify land and plan for its settlement even if money is not available for urban services. Once people settle on that land and feel that they have a right to live there, they will begin investing in it. Over time, the area will upgrade incrementally.

The strategy designed for the Indian context is a dual one, looking at urban poverty alleviation and slum-freeness/ upgradation, covering both the short term and long term. This delineation makes a distinction between the **elements**, or principles, of the strategy, and the **instruments** of its delivery.

A crucial strategic departure from the slum prevention/ removal approach can be seen in the evolution of thought from the implementation of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) to the conceptualization of the Rajiv Awas Yojana (RAY). The aim with RAY is to include both, curative and preventive aspects of urban poverty alleviation. This involves giving legislative strength to policy initiatives such as inclusive urban planning, financial empowerment of the poor, enabling livelihood options, and overall, granting property rights to the urban poor.

Whereas in previous programmes, the goal was programmatic interventions, RAY aims at an approach of

holistic convergence whereby the urban poor are guaranteed basic services, civic authorities redress failures that promote slum-growth and states tackle the key issue of shortage of serviced land that keep affordable housing out of the reach of the urban poor.

3.1 Strategy Elements

This strategy has the following main elements:

1. **Inclusive and equitable urban planning**: The strategy should take inclusion, liveability and slum freeness as the key guiding principles of urban planning and propose. To work through schemes, programmes and interventions which ensure that the provision of adequate working and living spaces for the poor becomes an important concern of revised urban development policies, as the one sustainable means of making and keeping cities slum free.
2. **Community Voice and Consensual Decision-making:** In doing so, the urban poor's contribution to society and economy will also be acknowledged, attempting a change in the view of the urban poor as 'beneficiaries' to the urban poor as 'partners' in the urban development process making them full citizens of the city. In order to continue ensuring employment and livelihood linkages, the key strategy tool for this will be the emphasis on in-situ development of affordable housing either on an ownership or rental basis. Wherever relocation is mandated, this should be seen as a method of last resort and to take place as close to the original site as possible, with all essential basic services including transport to maintain livelihood linkages.
3. **Assigning property rights to the urban poor:** In continuation of the view of the urban poor as rightful citizens of the city, one of the key rights to be accorded to the urban poor are property rights within an empowered legislative framework.
4. **Providing Basic Services and Shelter to the Urban Poor:** In all of this, the strategy should continue its emphasis

on the crucial provision of basic services and decent shelter to the urban poor along with transport and livelihood linkages whether the development is in-situ or on a relocation basis.

5. **Financial inclusion of the urban poor:** The strategy shall also focus on ending the financial exclusion of the urban poor. This will require working with formal financial institutions such as the Reserve Bank of India (RBI) and banking institutions (both private and public) and other financial institutions such as private and public housing finance companies as well as national attempts to enumerate the population e.g. the UIDAI, through which such interventions can be targeted. It is intended to arrive at a consensus system of financial inclusion cutting across various financial requirements of the urban poor.
6. **Forging a role for the private sector in affordable housing:** It should be expanded to include a role for the private sector, in partnership with the government, by state policies and a package of central incentives that will set the conditions to draw the private sector into construction of affordable housing.
7. **Promoting gainful livelihoods for the urban poor**: In the prevention of future slums, a key tool in the strategy is the promotion of livelihoods for the urban poor, both via training for wage and self-employment
8. Converging the interests of urban planning with the need for **provision of spaces for informal urban livelihoods** (both industry based as well as street vending) within the larger plan for urban development of the city, in the short and long-term. In particular, the concept of "Micro-business Centres" (MBCs) should be promoted, which involves the creation of a market space for vendors to trade their wares. This initiative should be subsidised by the ministry and promoted at the city-level by the ULB.
9. **Creating a Reliable Data Base**: The creation of a reliable database on key urban poverty statistics at the centre and the states should be a key benchmark for future

reference. This initiative has also been supported by the Report of the Committee on Slum Statistics/Census via their recommendation for the creation of an "Urban Information Management System on Slums".

10. **Creating adequate capacity at the centre, state and ULB level:** Achievement of the goals of slum upgradation requires the strengthening of the Urban Development Ministry itself, the state urban affairs' departments, the ULBs and community structures and the participation of the urban community, especially the poor in decision-making and programme implementation.

    The mid-term appraisal of the 11th Five year plan reported that in the case of JNNURM, delays in the implementation of many reforms could be attributed to the fact that many states and ULBs are facing significant shortages in financial, social, and governance capacity that limit their ability to steer urban development and create self-sustaining administrative units at the local level. Even as the case for acceleration of reforms is pushed, the report mandates that more must be done to empower the states and ULBs, and more help should be given to them to build new capabilities that will be critical to ensuring the long term sustainability of the change started.

    In terms of actionable points this implies:

    (i) organizational development including the elaboration of management structures, processes and procedures, within ULBs as well as the management of relationships between the different organizations and sectors (public, private and community) involved in urban affairs and urban poverty alleviation; and

    (ii) human resource development which involves equipping individuals within the ULBs with the understanding, skills and access to information, knowledge and training that enables them to perform effectively.

The strategy will focus on the creation of capacity at the centre, state, and ULB level. At the centre, this requires the active solicitation of technical support via external assistance parallel to the setting up of a mission directorate for RAY (in much the same way as JNNURM). Under RAY at the states and in the ULBs, this will involve the creation of specialized cells for technical assistance for the preparation of the slum-free plans of action.

Further a network of resource centres should be created and strengthened to ensure adequate support to the states and cities in the preparation of their plans as well as research-based policy input.

11. **Legislative inclusion of the urban poor:** The strategy will focus on ending the legislative exclusion of the urban poor. This will require working with premier law schools and eminent law firms in the country, such as the National Law Schools in Bangalore and Delhi, in order bring in their expertise for the review of laws / bills proposed. In addition, convergence with the M/o Law, Justice and Legislative Affairs will also be sought to ensure a wider acceptance and applicability of the laws.

Finally stakeholder consultations with States, ULBs, NGOs and the community in the field should be undertaken to ensure their full participation in the process.

3.2 The Instruments of Delivery

The following instruments will be utilized for urban poverty alleviation and slum freeness – capacity creation, advocacy, convergence of effort with other ministries, and centrally supported programmes.

1. **Capacity creation of the ULBs:** One of the key learnings of the implementation of JNNURM has been that the capacities of the ULBs must be strengthened both in the size of manpower support as well as the quality of techno-professional support available to them. This is seen as a precondition to the delegation of functions by the states to the third tier. It is essential that the urban local bodies

may have the manpower and technical resources to function effectively and fulfill their responsibilities.

2. **Capacity creation at the Centre**: The capacity creation at the centre strategy encompasses both the capacities within the Ministry and institutional academic support for sustainable, inclusive urbanization. There is a dire need for information creation and knowledge management as well as capacity creation of the officials of the Ministry of Housing & Urban Poverty Alleviation. In addition to the exchange of learning from different states and cities to flow into the centre as a bank of best practices, there is also a wealth of international examples of urban poverty alleviation and housing, both in the developed and developing countries that could be learned from. The flow of knowledge into the ministry as well as from the ministry into the states and cities to inform further policy formulation and review is a crucial instrument of the strategy.
3. **Advocacy**: With housing being firmly in the state's list and poverty alleviation in the 12th Schedule of the Constitution, the centre can move towards its goals only if it succeeds in persuading the States and ULBs to adopt and implement its agenda. Advocacy, through various means – delineation of clear national policies and plans of action, workshops, meetings, debate, exposure to world trends, creation of a sound data base, sharing of experiences and successful policies, issue of guidelines, training of ULB and state personnel, model legislation – will be an important part of the strategy. One of the key mind-blocks to the successful alleviation of poverty is the view of the urban poor as a 'problem'. The centre should endeavour to ensure that enough civil society participation and stakeholder participation in both the planning/design of its programmes as well as the social audit, concurrent evaluations and independent monitoring brings about transparency and a healthy exchange of ideas for urban poverty alleviation and slum freeness.

4. **Harnessing Financial Support**: Through its various programmes and schemes, the centre should endeavour to provide adequate financial support to the states and ULBs to achieve the goals set out for itself over the next five years, as well as to incentivize them towards the goal of inclusive, equitable and slum free cities
5. **Convergence with various Ministries**: In order to deliver on subjected related to urban poverty alleviation, but not (completely) within the mandate of the ministry – such as health, education, social security and livelihood - M/o HUPA should endeavour to work with other line ministries of the Government of India, and through them, the various state and ULB departments in the fields of education (both elementary and adult), health and family welfare, skill development, labour, rural development and, of course, urban development, to bring about a holistic approach to urban poverty alleviation tackling its multiple dimensions. The methodology of engagement with the relevant ministries will include working strongly with all relevant departments/ministries to spell out in detail both the areas of convergence as well as the manner in which the programmes/schemes can be mutually beneficial to the urban poor; the overall aim being to arrive at Memoranda of Understanding with the relevant ministries.

4. IMPLEMENTATION PLAN

In June 2009 the Hon'ble President of India announced the bold new vision of a slum-free India with a clear policy direction for inclusiveness by assigning property rights to urban poor. In pursuing its aspiration of a Slum Free India, access to affordable housing by all and acceleration of urban poverty reduction, the centre is in final stages of designing and launching its flagship programme the Rajiv Awas Yojana (RAY).

4.1 Rajiv Awas Yojana (RAY)

The flagship programme of the Ministry over the next few years shall be the Rajiv Awas Yojana. RAY has been

designed so that it can be driven, by employing all the instruments of this ministry's strategy, into operationalising all the elements of its strategy. It would touch upon and further the goals of the ministry that JNNURM and other existing schemes did not adequately address.

The Rajiv Awas Yojana (RAY) programme shall serve as the tools with which the centre shall operationalize its strategy to deliver on its goals and provide enabling frameworks for convergence as well as coordination with stakeholders. In the programme action in addition to convergence, advocacy and capacity creation will be actualized.

RAY presents a three-pronged approach:

(i) Bringing existing slums within the formal system and enabling them to avail the same level of basic amenities as the rest of the town;

(ii) Redressing the failures of the formal system that lies behind the creation of slums; and

(iii) Tackling the shortages of urban land andhousing that keep shelter out of reach of the urban poor.

The overarching aim of RAY would thus be to drive a fundamental change in policy and reform in the existing urban development systems. Release of funds under RAY would be predicated upon the acceptance and implementation of the roles and responsibilities by the Centre, State and ULB, entering into Memoranda of Agreement (MOA) with Government of India. Both states and cities under RAY would be required to prepare plans of action working towards slum-freeness for the state and city in phase 1 of RAY. This is predicated on both, the gathering of key statistics of urban poverty (in the state and city) as well as the creation/ development of capacity for the implementation of RAY in the cities and states via the placement of professional techno-professional support teams at the state and ULB levels.

J.B. Kshirsagar and R. Srinivas

Inclusive Urban Planning and Governance: Issues and Challenges

Abstract

This article focuses on India's urbanization and the need for planned urban development though the various mechanisms available and what would be the overall scenario in the future as the number of cities and towns has shown considerable increase and thrown numerous challenges for not only planned development but also inclusive governance. Both planning as well as governance should complement each other so that the inequity in terms of service delivery and distribution in cities and towns can be overcome.

1. India's Urbanization

The challenges of urbanization necessitate provision of housing and Infrastructure for the rapid population growth. This also present opportunity in terms of managing the urban sector in a sustainable manner .In the years to come especially in view of globalization, liberalization and market dynamism, especially the million plus cities will have to look beyond their planning and governance capabilities so as to achieve world class status in order to be in a position to compete globally.

The fact that urban Infrastructure development is indispensable for overall development needs no emphasis. In a dynamic and competitive global economy, development and investment will have to move in tandem, where there is infrastructure to support opportunity. In addition to creating a facilitating environment for economic development, urban infrastructure development has many direct and indirect

multiplier effects on the local economy and external sectors as well.

By 2051, it is expected that half the population of India would reside in urban settlements and it is estimated that the number of metropolitan (million plus) cities would be 75 and total number of the urban settlements may be more than 10000. Further, in future, the contribution of urban settlements to the GDP may be around 75%-80% and it would definitely play a key role in overall national development.

Census -2011: Latest Urban Scenario

As per 2011 Census, India's urban population has increased from 28.61 crore in 2001 to 37.71crore in 2011 and now constitutes about 31.16% of the total population. The decadal growth rate of urban population has more or less stabilized as the rate was 31.5% during 1991-2001 and 31.8 % during 2001-2011.

The total number of towns and cities has increased from 5161 in 2001 to 7935 in 2011. Now, there are 468 Class I cities among 7935 towns and cities and the number of million plus cities has increased from 35 in 2001 to 53 in 2011. The release of data pertaining to number of towns and cities in Categories II –IV is still awaited. The 53 million plus cities together constitute 42.63% of the total urban population while the Class I cities (468) together constitute 70.20% of the total urban population.

From the above, it is evident that large-scale urbanization in India is going to put severe strain on urban infrastructure like water supply, roads and transport, sewerage and sanitation, drainage and solid waste management, etc. If the momentum of economic growth is to maintained, both challenges and opportunities thrown up by large-scale urbanization will also have to be addressed on priority.

2. Implications of the Urbanization

In absolute terms, the urban population is likely to reach 53 crore in 2021. While undertaking physical planning of

Table: Growth in Population - All India - 1951 - 2011

Year	Total Population** (including Assam & J & K)		Urban Population** (including Assam & J & K)			Total No. of Cities and Towns* (Excluding J&K from 1951 to 1991 & Assam for 1981)
	Total Population (in crores)	Decadal Growth (%)	Urban Population (in crores)	Decadal Growth (%)	Urban population (%)	
1951	36.11		6.24		17.3	3035
1961	43.92	21.6	7.89	26.4	18.0	2657
1971	54.81	24.8	10.91	38.3	19.9	3081
1981	68.33	24.7	15.95	46.2	23.3	3891
1991	84.63	23.9	21.76	36.4	25.7	4615
2001	102.86	21.5	28.61	31.5	27.8	5161
2011	121.02***	17.6	37.71	31.8	31.16	7935

Note: 1. The 1981 Census could not be held in Assam. The population figures have been worked out by interpolation
The 1991 Census was not held in Jammu & Kashmir. The population figures include the population for J & K as projected by the Standing Committee of Experts on Population Projection (October, 1989)
* Source: Census of India, 1991- Series –1, Part-II-A (ii) –A Series
** Source: Census of India –1991 –Series –1, Paper-2 of 1992 – Final Population Totals (page 86)
*** Source: Census of India 2001: Primary Census Abstract (on CD)

urban areas, town planners are confronted with issues related to the efficiency of the urban settlements which largely depend on how well they are planned, developed and how efficiently they are managed. As such, planning inputs and more so implementation and enforcement aspects govern their efficiency.

In the typical prevailing development scenario the urban population in the country has limited access to infrastructure such as water supply, drainage, sewerage and scientific solid waste disposal. Further, cities have to face the problem of inequities in distribution among different income groups of population. Infrastructure inadequacies and inequitable

distribution are accompanied by the absence of efficient and effective management which has to be addressed in right earnest.

The Census 2011 has for the first time classified a large number of towns as census towns (3894).This signifies that although the pace of urbanization has slowed down but at the same time a large number of rural settlements have attained urban characteristics. These towns do not have any Urban Local Bodies; hence there may not be any Master Plan in force nor development /building regulations. The immediate task for State Governments would be to put in place urban local bodies for these census towns and assign them the mandated functions which otherwise may lead to unauthorized construction, encroachment, congestion, poor built environment etc., these towns will not be in a position to avail the central assistance for creating new / upgrading the existing infrastructure.

3. Physical Planning in India

Physical Planning is as old as the civilization. From the ancient River Valley Civilizations through various historical periods –Planning has moved forward on a continuous basis. The genesis of modern planning can be traced to the industrial revolution. Contemporary planning practice in the country started with the enactment of the Bombay Improvement Trust Act, 1920

Planning inputs ultimately govern the efficiency level of human settlements. Town and Country Planning and Urban Development in India are state subjects. The preparation of Master Plan/Development Plan is the responsibility of the State Town and Country Planning Departments and City Development Authorities under the provisions of State Town and Country Planning Act sand Development Authority Acts and the implementation of the same rest with the para-statal agencies of the city/town concerned.

The Planned development of towns and cities has witnessed sea-change since independence. In the post-independence period especially during the1950's, the focus of

development was largely on rehabilitation of migrants due to partition. In 1960's, a beginning was made to build infrastructure in the form of dams, iron and steel plants and public sector townships. With the green revolution in the 1970's, efforts were made to develop Mandi towns along with augmentation of infrastructure in small and medium towns. The 1980's saw a spurt in employment opportunities in the urban areas thereby leading to unprecedented migration to large cities. These cities emerged as centers of economic activities. The 1990's were perceived as watershed in the planned development of urban settlements as the decade marked the initiation of reforms in the form of liberalization and globalization, which is still being continuing, backed by 'ICT' revolution. Now, a more proactive approach in urban development has been taken up as the fast track reforms laden JNNURM is in the sixth year of implementation which is likely to have large-scale implications on the future growth and planned development of urban settlements.

Master Plan

A Master Plan is a statutory tool to guide and channelize the growth and development of a town/city. It is notified under the T&CP Act or Urban Development Authority Act and provides a spatial framework for the planned development of activities which are to come up in future. The proposed urban activities or functions are location specific. The objective is to regulate the development of urban areas and their environs to address:

- ✓ Overall City planning and development over the space (Horizontal/Vertical).
- ✓ Regulating future land use and implementing the provisions of Zoning.
- ✓ Planning and Management of Physical and Social Infrastructure.
- ✓ Planning and Management of Heritage, Built and Natural Environment
- ✓ Integrating Land use and Transport

The planning of a city is a continuous and dynamic process; hence the planning process and the development process need to be recognized as concomitant duly taking into account land availability and dynamism of market forces in land management. The issue of land management, operation and management of infrastructure and services along with both the availability and requirement play a prominent role in undertaking spatial planning exercises.

Hence, it can precisely be stated that "*Master Plan is an overall blueprint for development of city/town to assess the present availability of land and infrastructure and requirements for the future population for a horizon period. It also ensures that city grows and develops in a planned manner.*

So far about 1233 cities of the country have Master Plan which constitutes 30.51% of the total 4041 statutory towns as per 2011 census. The concept of Master Plans is well established as they are prepared with clear cut procedure-right from the preparation of plan, publication of draft, inviting objections and suggestions from public, publication of final Master Plan along with notification to give statutory backing. The Master Plan proposals are by and large for the city as a whole while disaggregation of the plans takes place a zonal and sub-zonal level.

While preparing the Master Plan for all the towns and cities in the country, the first and foremost task would be to give the statutory backing for the census towns and thereafter, the State Governments will have to take the steps for preparing the Master Plan. With the advent of techniques like remote sensing and GIS, it would be possible to prepare the Master Plan in a short period of time. The State Governments will also have to strengthen the capacity of Town and Country Planning Departments and Development Authorities to undertake the exercise of preparing Master Plan for all the towns within said time frame.

Zonal Plan

Zonal Plan is an exercise of detailing the Master Plan

proposals at zone/area level. Further, the provision of infrastructure/ facilities both in terms of requirement as well as location is detailed out at the zonal /area level. For example NCT Delhi is divided into 15 planning zones and for each Zone,ZDP's are being prepared after the notification of MPD-2021.Barring few metropolitan cities , planning is generally limited to overall city level.

Regional Plan

As mega and metropolitan cities expand, the planning exercise has to increase its scope to the city's region encompassing the surrounding hinterland by identifying satellite towns and counter-magnets villages. In order to achieve balanced development of the region, dispersal of population and employment generation, Regional Plan has to be prepared keeping in view the overall settlement hierarchy and allocation of economic activities as per the potential of the settlements of different order. Regional Plans have been prepared under the NCR Act,1985(NCR Plan, 2021) and State T&CP Acts/Development Authority Act for example, Goa Regional Plan, Mumbai Metropolitan Region Plan, 2021, Kolkata Metropolitan Region Plan, 2021, etc. Further, Regional Plan can also be prepared for a particular regions characterized by certain functions/economic or spatial characteristics. It can also be prepared for resource endowed regions or backward regions.

There are very few Regional Plans are available and as per Census, 2011 the number of million plus cities are 53 and it would be appropriate that every million plus city should delineate its sphere of influence, depending on physical and functional linkages. Most of the Town and Country Planning Acts of the States Development Authorities Acts do not have the provision of preparing Regional Plan. Depending on the priorities of the State Government, it would be essential to take necessary steps to delineate the region and accordingly prepare a Regional Plan taking into account contiguity, accessibility and connectivity in the region.

Local Area Plans

The preparation of Local Area Plans advocated in the Master Plan for Delhi-2021, is the latest concept which is envisaged to encourage public participation. The Plan largely focuses on planning at ward level with the stakeholder consultation, for the overall infrastructure up gradation. The LAPS in the process of being finalized.

4. City Development Plan-Attempt to estimate infrastructure requirements

City Development Plan (CDP) is both a vision for the future development of a city. It presents the current stage of the city's development – where are we now? It sets out the directions of change – where do we want to go? It identifies the thrust areas — what do we need to address on priority? It also suggests alternative routes, strategies, and interventions for bringing about the change – what interventions do we make in order to attain the vision? It provides a framework and vision within which projects need to be identified and implemented. It establishes framework for evaluation of investment decisions. A CDP is anchored to the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) goal of creating economically productive, efficient, equitable and responsive cities. As a step towards achieving this goal, a CDP focuses on the development of economic and social infrastructure, strategies that deal specifically with issues affecting the urban poor, strengthening municipal governments and their financial accounting and budgeting systems and procedures, creation of structures for bringing in accountability and transparency, and elimination of legal and other bottlenecks that have stifled the land and housing markets. It provides a basis for cities to undertake urban sector reforms that help direct investment into city-based infrastructure as it is essential for a city to systematically think of the future, and determine how it wishes to shape that future.

City Development Plan can be integrated with the Master Plan if the capital investment plan and financial

operating plan are subsumed in the Master Plan. This can be done once the Master Plan is reviewed on a periodic basis.

5. 74th Constitution Amendment Act, 1992

Realizing the importance of settlement planning both urban and rural, it may be mentioned that the 73rd and 74th Constitution Amendment Acts have already been enacted in 1992, which adopt a 'bottom up' approach. The essence of these amendments is empowerment of panchayati raj institutions and urban local bodies by duly recognizing people's participation. A number of State Governments have already amended their Laws in conformity with the provisions of 73rd 74th CAA and elected local bodies are now in place. What is required is that State Governments have to actively pursue and implement all the provisions of the73rd and 74th CAA so that the people at the grass root level are in a position to participate in the planning and decision making process.

The 74th CAA has enabled the State Governments to constitute Metropolitan Planning Committees and District Planning Committees, which are responsible for the preparation of Metropolitan Plans and District Development Plans. In reality the objective of balanced urbanization and regional development can be achieved may through implementation of the 73rd and 74th CAA in true spirit.

6. Development of new settlements

There has been a spurt of developing specialized townships like Special Economic Zones (SEZ), IT Townships, Export Promotion Industrial Parks EPIP), Hi-Tech Townships and industry based townships. Many of the state and city governments are trying hard to create a few "global centres of the future" in the form of aforementioned townships wherein they can attract local and international investment. Land is being provided at preferred sites to upcoming industrial and commercial houses both through government intervention and by activating the land market. Steps are being taken to facilitate changes in land-use pattern through simplification of legal and administrative procedures and by

enabling the market to push "low value" activities out of the city core.

There is no doubt that these new forms of development will be helpful in strengthening the economic base, however, a cautious approach needs to be adopted. While developing these settlements it has to be ensured that they fit into the overall State's urban and regional development strategy, otherwise, development would occur in a piecemeal manner and the impact may further widen the rural-urban divide.

These prospective global cities are currently facing two problems in attracting foreign and Indian business houses and industrialists. One is scarcity of land within the central city and other prime locations; the second is deficiency of infrastructure. An ingenious method has to be worked out so that there is no undue large-scale conversion of rich fertile agricultural land.

It has also been argued that the Floor Area Ratio (FAR) in the CBD of the city should be increased so that multi-storied structures can come up, providing space for business houses, commercial activities and high-income residential units. The policy of giving permission for vertical growth at a high price or selling of extra FAR in central and business districts may be welcomed by various stakeholders. However, any relaxation in terms of FAR and ground coverage must commensurate with simultaneous augmentation of urban infrastructure, otherwise there could be immediate fallout in the form of creation of a few high-density business and high-income residential districts, pushing out households that are not able to afford the costs thereby making the housing an unaffordable proposition.

While preparing the Master Plan new settlements, it has to be ensured that along the transit corridor, major uses like commercial, residential and institutional should be planned in a manner so that the commuting distance is reduced and restricts use of personal modes. Transit oriented development also encourages use of public transport. This will also enable a city to grow in a compact manner, rather than leaving to sprawl beyond the urbanizable limits.

7. 2010-2020: Challenges of Decade

2010-2020 will be crucial in many ways. By the time provisional figures of Census are published, we will be at end of current five year plan (2012). The census figures on urbanisation have thrown up many challenges as the number of million plus cities has crossed 50. There will also be a comprehensive review of the performance of JNNURM as the mission is in 6th year of implementation. This will enable us to judge the service level benchmarking of urban infrastructure provisioning. It also gives us an opportunity to learn from our experiences, as to what extent we have been successful in making our cities self-reliant, vibrant, dynamic and liveable and at the same time assess where we have gone wrong in terms of implementing reforms especially in cities where for some reason or the other, progress has been slow and thereby make the necessary course corrections.

On an optimistic note it may be stated that the country will accelerate its GDP growth like never before and will sustain a growth of about 9.6 percent in this decade. This would again pose enormous challenges in the years to come and we expect that more than two-thirds of the contribution to the economy will be from the urban sector alone.

Government of India has declared 2010-2020 as the "Decade of Innovations". This calls for exploring new solutions in many areas to achieve our goals of inclusive and sustainable growth – in managing urban infrastructure, making ULBs self-reliant, and making environmental management meaningful without compromising the interests of rural areas.

India has already embarked on a comprehensive National Action Plan for combating climate change which was launched in 2008 by the Hon'ble Prime Minister. The approach of the Action Plan is to promote development objectives through pathways that also yield co-benefits for addressing climate change mitigation and adaptation. The principles are inclusive for sustainable development, efficient and cost-effective for end-use demand side management, combating growth with ecological sustainability, adoption of

appropriate technologies for limiting greenhouse gas emission, engineering new and innovative markets, regulatory and voluntary mechanisms, effective programme implementation through linkages with Urban Local Bodies and PPP and welcoming international cooperation for R&D and transfer of technology with funding. The Action Plan has 8 missions like the National Solar Mission, the National Mission for Enhanced Energy Efficiency, National Mission for Sustainable Habitat, National Water Mission, National Mission for the Himalayan Ecosystem etc.

Ministry of Urban Development is the nodal ministry for the National Mission for Sustainable Habitat. The Mission covers a broad spectrum of issues related to both Mitigation and Adaptation. As far as Mitigation is concerned, the focus is on Energy efficiency in the residential and commercial sectors, urban waste management, urban planning, achieving an appropriate modal shift in the area of urban transportation etc. As far as Adaptation is concerned, the focus is on ensuring universal access to water, protection against floods and cyclones, establishment of disaster warning systems, measures to containing the urban degradation. The National Mission for Sustainable Habitat is one of the major areas where mutual understanding and sharing of experience can be equally beneficial for all stakeholders.

8. The Way Forward

- To capture cities' competitive advantage and strategic role in the economic growth of the India, initiatives like development of special economic zones, trade corridors, and new service delivery models that rely on strong and sustainable linkages between cities and the global economy need to be pursued.
- Urban Local Bodies be empowered through functional and financial devolution. The need for institutionalizing citizen's participation in ULB functions, e.g. setting out priorities, budgeting provisions etc. need rigorous approach.
- The challenge of Planning Cities and Towns in the

regional perspective is required especially for million plus cities in terms of land-use, resource allocation, equitable and mutually complementary resource flows between the city and its hinterland, and institutional and infrastructure mechanisms to enable the implementation of Metropolitan Region Plans.

- The capacity of Indian cities and towns to accommodate incremental growth needs to be enhanced by increasing holding capacity, promoting environmentally sustainable transport options and infrastructure.
- Assisting the urban poor in income generation activities, improving the quality of their physical environment and enhancing their access to basic services like safe drinking water and sanitation, primary health care and education and ensuring tenurial rights. In order to address the needs of the poor, Master Plan has to specify lower norms and standards as well as building bye laws for the urban poor. State Governments have already earmarked certain percentage of dwelling units/plots exclusively for the economically weaker section. In this regard, the role of RWAs/CBOs is also important for sensitizing the city authorities to enable the urban poor to explore livelihood options within easy commuting distance.
- Integration of spatial planning with fiscal planning in terms of location of activities and investments along with environmental sustainability of cities and towns.
- Disaster Management-Steps to be taken for pre-disaster and post-disaster measures so as to check urban flooding, earthquakes and safety against fire and other man-made disasters.
- The National Action Plan on Climate Change (NAPCC) and the Sustainable Habitat Mission articulates the level of financial investment required to take up some of the measures suggested. Since each city in India has a unique set of problems and issues, city-specific interventions are required.
- Presently, there are 16 institutions which are offering

both undergraduate and post graduate courses in planning. On an average, about 800 students are passing out, which is grossly inadequate to cater to the needs for manpower in the State Town Planning Departments, Development Authorities and various agencies like Metropolitan Planning Committee and District Planning Committee. In this regard, the State Governments need to provide professional backing to both MPC and DPC, so as to engage Town Planners. Further, there is a need to open Schools of Planning in every State on the lines of Indian Institute of Management and Indian Institute of Technology. This will ensure availability of qualified Town Planners in every State.

9. Conclusions

As half of the country population will reside in the cities and towns by 2051,it is imperative to plan them in such a manner that they become self-sustained entities. This will call for planned development focusing on integration of physical and economic planning in order to ensure better quality of live and making the city more liveable. The challenges are many and accordingly all the stakeholders will have to strive for expeditious action for making the cities and towns –a better place for living.

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Financial Governance: An urgent imperative for Urban transformation

A. Introduction/Background

I. Urbanisation of India is arguably among the largest structural transformation phenomena to unfold in the world in recent times. This mammoth but exciting change is already beginning to take shape around us and would gain greater speed in the next couple of decades. Indian cities are expected to witness population growth of over 250 million taking the urban population to c.600 million, roughly twice the size of the current population of the United States. In the course of the next two decades 70% of net new employment is expected to be created in cities and cities are expected to account for close to 75 % of India's GDP and the number of metropolitan cities with 1 million population is expected to rise from 50 today to 87 (the whole of Europe today has little over 40 such cities).

II. Facilitating and managing this historical transition would require close to USD 1 trillion in investments in cities, strengthening their governance framework and empowering their self-governments. The above investment requirement essentially implies investing equivalent of India's Nominal GDP in 2007-08 (India's Nominal GDP in 2010 is in the region of USD 1.6 trillion) into Urban India in the next 20 years.

III. The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) launched in 2005-06 with an outlay of over Rs 100,000 crore (> USD 20 bn) is the single-largest initiative in the history of India focussed on Urban

poverty, infrastructure and reforms. The investment requirement of USD 1 trillion therefore translates into 50 times the allocation of the JNNURM in the next 20 years.

IV. As JNNURM nears its end in 2011-12, it leaves us with several ideas and also questions on what a re-drawn roadmap for Urban renewal should look like and what are the imperatives for a successful pan-India Urban rejuvenation programme; in layman terms, "what are those 10 things we need to do right to pull back our cities from squalor and make them world-class". Foremost among these questions would be the following:

1. How do USPs find the money?
2. How do USPs ensure that the money is spent well?

We believe that a comprehensive Financial Governance framework at the level of Urban Service Providers (USPs; comprising Urban Local Bodies that are local self-governments and parastatal agencies rendering urban services) is crucial to unlock the answers to the above as also to ensure that accountability is firmly established and institutionalised considering the large quantum of public funds that these bodies would be required to manage in the coming decades.

B. The need for Financial Governance

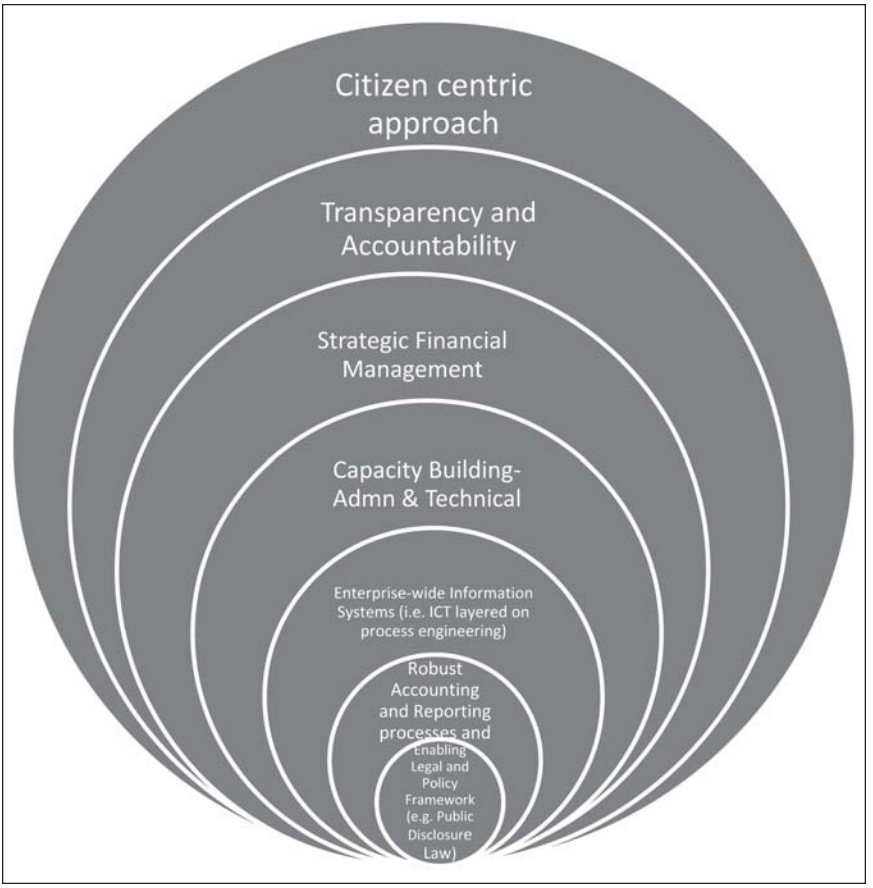
Financial Governance in USPs assumes significance on the below counts

1. As mentioned above, USPs are beginning to directly receive large amounts of money particularly from the Union Government, through schemes such as JNNURM requiring both the ability to manage funds as well as commensurate accountability initiatives.
2. USPs need significant financial investments in Infrastructure, requiring USPs to raise resources independently as Union/State Government support would not suffice

3. Urban Local Bodies (ULBs) which are the principal USPs in any city are local self-governments (LSGs) and therefore the first building block in the democratic edifice. They need to be empowered financially to deliver on their functions, which in turn requires a solid foundation of financial governance. This is a pre requisite for the democratic promise of meaningful and active community participation in shaping visions for cities and running them, to be fulfilled.

Figure 1 below depicts the layers which constitute an effective financial governance framework for the cities of tomorrow.

Figure 1



C. Salient features of a Financial Governance framework

We discuss below the salient constituents of each layer of this framework, their current state and imperative measures that need to be undertaken in the immediate future to ensure improvement in service outcomes that accompany hike in budgetary allocations as well as augmentation of financial resources of USPs.

1. Enabling policy and legal framework

The Public Disclosure Law (PDL), a mandatory reform under JNNURM is a significant step in the direction of an enabling policy and legal framework. The PDL essentially mandates suo motu disclosures of certain base level financial and operational information by ULBs. Over twenty states have already enacted PDL. JNNURM further requires its beneficiaries to undertake certain other basic accounting reforms such as cut-over to accrual basis of accounting. However the below issues remain.

a) PDL laws enacted by states in several cases do not meet the requirements of the model law in spirit, thus defeating/not fully satisfying the intent of PDL

b) Several states are yet to notify rules detailing the application of the law and where notified, none have commenced disclosures, especially quarterly disclosures of financial information

c) Whilst several states have claimed accomplishment of cut-over to accrual basis of accounting, disclosure of annual financial statements by ULBs remains a rarity

d) Further, it needs to be borne in mind that JNNURM's tenor ends by March 2012. In this context, it remains to be seen what degree of reforms envisaged thereunder would be pending completion in spirit at March 2012 and what the pace of their progress would be post that

Annexures 1 and 2 depict data on status of compliance with PDL and status of basic accounting reforms respectively.

Any future funding of USPs should factor in the above, preferably as qualifying factors. Further, certain specific amendments are required to state-level Municipal Acts and governing legislations of other parastatal agencies which function as Urban Service Providers (e.g. independent Water Supply and Sewerage Boards) to facilitate accounting and auditing reforms. The state-level amendments should ideally be based on a common set of model recommendations applicable to ALL USPs. Accounting reforms are dealt with in detail in paragraph 2 below titled "Robust Accounting and Reporting Processes and Systems".

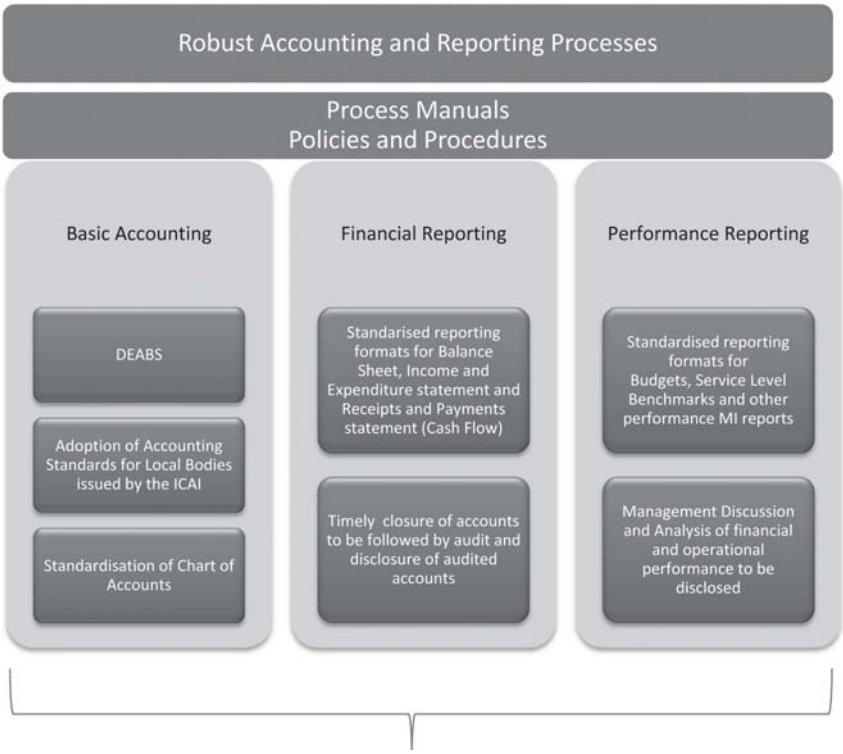
2. Robust Accounting and Reporting Processes and Systems

Accounting Reforms have been part of the agenda of several committees including Finance Commissions and JNNURM. The significance of accounting and reporting process reforms cannot be over emphasized as they have the twin purpose of enabling performance measurement and institutionalizing accountability. As mentioned above, whilst most ULBs covered under the JNNURM could have already cut-over to a double entry accrual based accounting system (DEABS), there is still much work to be done in setting national standards for accounting and reporting processes in USPs, beginning with the ULBs given their status as LSGs.

Given that USPs are governed by state legislations, there is currently little uniformity in accounting and reporting processes between them. Therefore, though they are similar entities, all rendering urban services, there are no standards (accounting standards, reporting formats, timelines, audit requirements etc.) that are universally applicable to USPs. This severely impairs comparability and ease of use of financial statements of USPs, many of which are faced with similar challenges on several fronts.

Figure 2 is a simple illustration of key constituents of the accounting and reporting process:

Figure 2



To be facilitated by appropriate amendments to state-level governing legislations

While some of the above elements are covered by the National Municipal Accounts Manual, and the Thirteenth Finance Commission (FC XIII) mandates its adoption in certain respects for draw down of performance grants, a comprehensive and *standardized* framework of accounting and reporting processes alone could serve as a solid foundation to sound financial management. The existence of timely and reliable financial reporting build confidence among both citizens and capital markets, one being the service recipient and the other a potential major source of infrastructure financing. Again a similar approach to performance management system that reviews service outcomes against related costs, unit cost analysis, underlying drivers of revenue, cost and operational performance and

budgets against actual will facilitate administrators to make informed decisions on resource allocation, investment priorities rather than a short-sighted annual budget driven expenditure plan that sounds the victory bugle as soon as projects are launched.

As a first step, such a framework could be rolled out to LSGs and their application to other USPs deliberated, explored and implemented in due course.

3. Enterprise-wide Information Systems

LSGs are severely constrained by availability of timely and relevant data. Even in ULBs in which e-Governance initiatives have been rolled out, it is common to find significant manual intervention in the absence of last mile connectivity. E.g. property tax collections in various Revenue offices in the city do not get automatically transmitted to the Head office but are required to be manually data, at certain times a second time.

Enterprise-wide Information Systems, perhaps a largely standardised Government ERP, is long overdue especially in cities that have population in excess of 1 million or so. It is critical for urban administrators to base decisions on timely and reliable data. The range of such data would encompass demographic profile of citizens, financial and operational data on each urban service, real-time data on specific services such as water supply/electricity, financial and performance reporting data, an exhaustive project management module and connectivity at Ward/Zonal/Revenue office level as applicable.

Data driven decision making, where data is timely and reliable is a powerful if not mandatory enabler of administrators especially of large constituencies such as cities and towns. While these require large investments of time and money, the returns would be more than commensurate given the expected growth in population and infrastructure in Indian cities and towns. The focus therefore of e-Governance initiatives in the urban space should well be on such integrated systems i.e. combining back end operational

efficiencies with enhanced quality of service delivery). At a practical level, a roadmap should be drawn based on current and expected population and cities should be considered for these investments accordingly in a phased timeframe.

4. Capacity Building- Administrative and Technical

The intended objectives of efficient and effective financial management based on accounting and reporting process reforms and use of information technology will fructify only if there is sufficient and relevant human capital to operate these. Human capital connotes both availability of sufficient headcount as well as talent or skill sets.

Given the complexity of Urban governance, high levels of both technical and administrative capacity is warranted of the city administration.

A Price Waterhouse Coopers report on Capacity Building of ULBs provides the below estimate of break-down of municipal staff

Staff category	Percentage to total staff strength in a ULB
Class I	1 %
Class II	2 %
Class III	24 %
Class IV	73 %
Total	**100 %**

Source: "Capacity Building of ULBs An urgent imperative" by Price Waterhouse Coopers

The above data reflects an under-investment in senior management positions in Urban Local Bodies pointing to the need for a revamp of organisational structures.

Further, role fitment is an aspect that has not received sufficient attention. High levels of technical expertise required in town planning, infrastructure planning, GIS related areas, Project Management and even Health and Education are difficult to attain in the prevalent rigid framework of human resource management. The system of incentives and work

environment that can attract such talent requires reinvention of current policies and a 360 degree change in mind-set. A structure where performance is not tangibly rewarded to a reasonable extent and where poor performance is not disincentivised will not be capable of demonstrating the agility, energy and dynamism required to cope with the complex demands of urban governance.

Clearly, a related step would also be to isolate roles that are critical and require specialised skill sets especially around infrastructure and project management and ensure that role fitment for these is not compromised. This would automatically dovetail into a revamp of organisational structure referred to above.

Secondly, specialisation in Urban governance in general and Urban financial governance/Municipal Finance in particular needs to emerge in its own right as a branch of learning, both within the ambit of Union/State public services to facilitate administrative capacity building.

Thirdly, performance needs to be defined and targets set for the same. The culture of performance, financial and operational would also then radiate from the administration to critical stakeholders of the USPs such as vendors and contractors. Simply put, performance needs to emerge as the criterion for administrative decisions with respect to human capital, where human capital in a sense includes stakeholders who may not be full time employees of USPs. The endemic shortfall in project management, financial and operational, as evidenced by time and cost overruns can be arrested only by these measures combined with accountability.

5. Strategic Financial Management

Currently, the head of the accounts/finance function of a ULB in most cases is the Chief Accounts Officer. As the name suggests, predominantly the functions of a Chief Accounts Officer do not comprise within them the key aspect of strategic financial management. Strategic financial management in the case of a USP could be considered to inter aliacomprise

Debt management including evaluation of sources of funding, credit rating, access to Municipal Bond markets, funding mix of the USP, evaluation of debt appetite

Investment management

- Long-term financial projections (say 20 years) emanating from Development Plans (such as the Master Plan) and funding options for the same
- Preparation of medium term financial projections in turn based on long-term projections, which in turn would form the basis of annual budgets
- Design and implementation of revenue models for urban services, taking into account social aspects of the services, target consumers etc.
- Decisioning on funding options such as securitisation of future cash flows/receivables/Monetisation of Land etc.

Given the significant uptick in the quantity of funds which USPs would witness in their wallets including their own efforts required to raise such funds, prudent management of the Balance Sheet and liquidity of USPs would be critical to ensuring sound financial health of these entities and thereby responsible management of public funds.

This function is virtually absent in most USPs and requires urgent attention. This further accentuates the need to draw up Balance Sheets for USPs, consequent to cutting over DEABS as the Balance Sheet ultimately reflects financial health. It is widely acknowledged that the current financial health of many USPs is propped up by grants from Union/ State Governments. However, the road ahead demands that USPs emerge gradually to become reasonably financially independent, especially given the large infrastructure requirements.

Secondly, it is strategic financial management which would respond to the test of public good when it comes to big-ticket expenditure such as Metro Rail, Expressways etc. Where fund requirements are large and resources scarce in a scale as seen in Urban India, there needs to be close scrutiny of financial viability and a justification of aspiration

vs. ability, electoral want vs. public need and populism vs. affordability.

The creation of a strategic financial management function within USPs with responsibility for Balance Sheet, Liquidity, Long and Medium-term financial planning and Financial viability therefore is an urgently needed reform initiative.

6. Transparency and Accountability

As mentioned earlier, the PDL is a significant step in the direction of public disclosure and accountability. It however needs to be recognised that PDL is the first step as disclosure needs to eventually lead to accountability and also is not the only aspect of accountability.

The FC XIII has also furthered the cause of accountability by requiring states to hand over Technical Guidance and Supervision (TG & S) of audit of ULBs (not clear of other USPs are included under the ambit) to the Comptroller and Auditor General of India.

However mandatory and independent annual audits of USPs, placing ALL such audit reports before the elected council (in the case of ULBs)/assembly (in the case of other USPs) and thereafter in the public domain, timely response by the administration/council to audit findings, etc. are some of the further measures on the audit front which would strengthen accountability of these entities.

Based on the timing of presentation of budgets, the lack of public disclosure of the basis of annual budgets of ULBs and significant deviation in revised estimates from original budgets are all signals that fiscal responsibility remains a missing link in the accountability chain.

Annexure 3 has data on status of disclosure of budgets by Urban Local Bodies of top cities in India.

Considering that USPs do not deal in sensitive matters of national importance such as security and foreign policy, there need to be a concerted move towards the Open Government concept where all public records including raw

data are available for scrutiny for public predominantly in electronic format. This would in the final analysis be the true indicator of public disclosure at a USP level.

7. Citizen centric approach

The ultimate barometer of good governance is citizen satisfaction with service outcomes and policies. Financial governance that has a citizen centric approach automatically ensures that resource allocation, prioritisation of finances and service outcomes are targeted to meet citizen aspirations. Tools such as participatory budgeting are already being practised in certain USPs to some degree of success. Citizen participation in financial decision-making has the advantage of providing pre-emptive feedback and serves as a self-correcting mechanism for the governance machinery. Whilst the logical sequence of financial governance reforms would be as above, citizen centric approach can be greatly harnessed as a collective accountability tool in the realm of execution of public works even before other reforms are undertaken. This again is being put into practice in limited number of ULBs through web based project management systems with facility for citizen feedback including photographs of physical progress. While fragmented and limited measures towards citizen participation are being made, a more concerted effort is required that is driven by political will. The demand-pull will hopefully happen from citizens in response to public disclosure.

A. Conclusion

Indian cities and towns require injection of c. USD 1 trillion of investments in infrastructure. This is a collective need that has to be fulfilled to overcome urban poverty, the angst and frustration which emanates from every interaction with urban public space in India, and also to realise the economic growth aspiration of the country as a whole. The above requirements that constitute an effective financial governance framework need to be urgently addressed to ensure that Urban India does not further fall behind in its race to catch up with its problems, especially the problem of dropping precious pennies on the road.

Annexure 1

	Status of Compliance with the PDL			
	1	2	3	4
City	PDL enacted	% compliance with Model Law	Rules notified under PDL	ULB complying with Rules i.e. public disclosure made
Ahmedabad	Yes	75.0	Yes	No
Bangalore	Yes	-	Yes	No
Chennai	Yes	31.3	Yes	No
Hyderabad	Yes	62.5	Yes	Yes
Kolkata	Yes	-	Yes	No
Mumbai	Yes	62.5	Yes	No
Delhi (MCD)	No	-	No	No
Delhi- NDMC	No	-	No	No
Pune	Yes	62.5	Yes	No
Source	Enquiries of NTAC, JNNURM	Comparison of state laws with Model law	Enquiries of NTAC, JNNURM	Website

Annexure 2

	Basic Accounting Reforms						
	1	2	3	4	5	6	7
City	Has the State revised the Municipal Code to mandate double entry accrual based accounting system	Does the ULB claim transition from Cash to Accrual basis?	Is there evidence of transition in the form of audited annual accounts in accordance with accrual basis for ANY year as displayed on the website?	Does the ULB Prepare a Balance Sheet atleast on Annual Frequency ?	No. of years out of preceding five years for which data is disclosed	Latest available year	Is the audit report (relating to the audited annual accounts) in the public domain (i.e. website/ publication in a daily/otherwise available at the ULB office
Ahmedabad	No	Yes	No	Yes	-	NA	No
Bangalore	No	Yes	No	Yes	-	NA	No
Chennai	Not available	Yes	No	Yes	-	NA	No
Hyderabad	Yes	Yes	Yes	Yes	1	2008-09	Yes
Kolkata	Not available	Yes	No	Yes	-	NA	No
Mumbai	No	Yes	No	Yes	1	2006-07	No
Delhi (MCD)	No	Yes	No	No	2	2008-09	No
Delhi- NDMC	NA	Yes	No	No		2009-10	No
Pune	No	Yes	No	No	-	NA	No
Source	Enquiries of officials/ consultants	PwC JNNURM Checklist	Website	Enquiries of officials/ consultants	Website	Website	Website/Enquiries of officials/ consultants

Annexure 3

	Disclosure of Budget information	
	1	2
City	**No. of years out of preceding five years for which data is disclosed**	**Latest available year on website**
Ahmedabad	3	2011-12
Bangalore	2	2010-11
Chennai	1	2007-08
Hyderabad	0	NA
Kolkata	0	NA
Mumbai	4	2010-11
Delhi (MCD)	0	NA
Delhi- NDMC	3	2011-12
Pune	4	2011-12
Source	**Website**	**Website**

V. Srinivas Chary, Vijaya Venkataraman and Adnan Diwan

Innovation Practices in Urban Management

PROVIDING ACCESS TO WATER SUPPLY TO THE URBAN POOR – NAVI MUMBAI

The Navi Mumbai Municipal Corporation (NMMC) has embarked on an initiative to improve water supply access to the urban poor in slums and gaothan areas by upgrading the distribution networks, providing the urban poor with continuous water supply through metered individual household connections / group connections, simplified procedures and reduced connection costs.

Context

Navi Mumbai is a planned city with a population of 12 lakh living within the area served by the NMMC. The water supply system, previously maintained by the Town Development Authority, was handed over to the NMMC in 1999. The water supply was inadequate to meet the growing needs of the population, especially the poor. Slum areas were provided with supply via tankers and the goathan areas through public stand posts for one or two hours a day. Individual household connections, reservoirs and internal distribution networks did not exist in these areas. Low income areas were provided piped water supply twice a day for an hour approximately. The situation resulted in wage losses, long queues at public stand posts (PSPs) and conflicts for water.

Initiative

The NMMC adopted a comprehensive strategy to

increase storage capacity and distribution network to the fully covered slums/goathans in an effort to provide round the clock piped water supply to the poor of Navi Mumbai. No development charges were levied. The network was also upgraded to cover low income groups (LIG) and economically weaker sections (EWS) with no development charges. Household connections were provided to slum and goathan residents and the fee for these was reduced from Rs. 3,500 to Rs.1,500. Meters were provided free of cost and group connections were also introduced. In order to simplify procedures and efficiently provide connections to the poor, the ward officer was placed in charge of connections. The technical staff of NMMC was tasked to provide assistance for connections in place of plumbers who used to charge a substantial fee. Provision was also made for the water bill to be payable in monthly instalments and the fine on late payments was waived. Periodic consultations and weekly Janta Darbars were organized with the communities. Zonal meetings of NMMC staff were organized regularly to monitor and support the process of improving access to the poor. The NMMC officers were approachable and accessible and contact information of officers and contractors was displayed in public places to facilitate interface. The work of providing supervisory control and data acquisition (SCADA) for the entire water supply system from source to the end of the main transmission line will be completed in March 2010 to give NMMC full control of water distribution and consequently ensure universal access.

Implementation

Navi Mumbai Municipal Corporation (NMMC) ensures the participation of citizens in all aspects of planning and monitoring. The telephone numbers of water supply departments and contractors are displayed on electronic spin resonances (ESRs) and ground-based scanning radiometers (GSRs) and are also published in newspapers. Every Friday, the NMMC holds open meetings of all stakeholders– government/private organizations and citizens. These Janta Darbarsare held under the chairmanship of the minister.

Information is displayed on the NMMC website.

The corporation arranges seminars and workshops on 24x7 water supply and water conservation. Zonal group meeting of officers and contractors are held twice a month for review and remedial measures. Additionally, advertisements via electronic media, newspapers, street play, drama, and bhajans on the theme of water are also organized.

Impact

The urban poor were provided with 15,676new metered household connections; a total of 94,533 connections in tenements, 57,728 connections in slum/goathan areas and 1,839group connections. One hundred percent (100%) network coverage has been achieved in previously unserved areas and connections will be provided by March 2010. NMMC has realized an increase in revenues from the new connection charges and regular bill payments to the tune of Rs. 12 crore. Due to household connections, pilferage and wastage has been reduced and average litres per capita per day (lpcd) have come down. Complaints from citizens on water issues have come down drastically. A reduction in water borne disease has been reported. The sample availability of water has also facilitated the implementation of successful safe sanitation interventions.

M- GOVERNANCE: AN EFFICIENT WAY TO MEET CITIZEN EXPECTATIONS: RAJKOT MUNICIPAL CORPORATION

The Rajkot Municipal Corporation used mobile phone services to deliver information and services to citizen for effective and speedy service delivery and improved revenues. Main objective of the initiative was to provide quick service to the citizens with less cost, with good quality and with customer satisfaction by M-Governance.

Context

In the conventional system, citizens had to wait in lines even to get information about dues. Despite call centres,

citizens had to use different numbers for different services whose timing was rigid. Status of applications, etc. was also difficult to assess. Transactions were not transparent; neither did higher officials have access to an MIS on income/ expenditure details. It was therefore decided to provide citizen friendly services through the use of mobile technology and short messaging services, covering the following services: Property Tax, Water Charges, Birth and Death Certificates, Town Planning, Drainage System, Theatre and Vehicle Tax, Estimation and costing, Profession Tax, Financial Accounting, Personal Information System, Legal Management System, Marriage Registration, Right to Information, Food and Industrial, License Grievance Management System, Misc Collection.

Initiative

The Rajkot Municipal Corporation used mobile phone services to deliver information and services to citizen for effective and speedy service delivery and improved revenues

Implementation

The m-Governance initiative was implemented using a combination of technology and process simplification. A single point contact number of a newly established 24/7 call centre was provided to citizens for information requests as well as complaints. Weekly monitoring of requests and complaints ensured that they would be resolved within 72 hours. On sending an SMS, citizen receives relevant information on mobile phone. Following transactions related to payments, citizen receive an alert acknowledging the payment. SMS is sent to relatives following birth or death registration. A vaccination reminder system ensures reminder messages to young parents. Further officials receive a daily income/ expenditure statement and are able to monitor service and information requests, complaints etc.

Impact

Governance and Service Delivery Improvements

- Single point Communication 24/7

- Hassle free complaint registration and status notification
- Lesser response time, reduced search time
- Search time for service is reduced,
- Reduced queuing up- 200 to 20 a day
- Elimination of middle men
- Equal quality of service regardless of social or economic status
- Cheapest transaction cost (as low as 1 paise/ transaction)

WATER QUALITY MONITORING SYSTEM IN WATER SUPPLY SYSTEM IN SURAT CITY (CITIZEN SERVICES AND GOVERNANCE)

Surat Municipal Corporation was facing an absence of fresh water during non-monsoon season. Also there were various other sources of pollution. Owing to these reasons, it needed a serious concern of water quality monitoring prior and in process of treatment, transmission & distribution.

Context

Surat Municipal Corporation (SMC) has developed a well-established, networked water supply system to provide drinking water to a consumer base (connections) of 3.25 lakhs in the geographical city limit of 334 sq km to more than 30 lakhs people. There are ten major water distribution stations and four pumping stations responsible for the effective treated water distribution in the various parts of the city. The water supply system has a network of over than 2,550 km. Presently, SMC is supplying more than 680 million liters per day (mld) of water against the installed capacity of 828 mld.

SMC constructed a weir and causeway to develop a water reservoir on the basis of Public-Private Partnership in 1995. Due to the enhanced storage capacity and natural increase in demand, water supply has increased with the construction of associated infrastructure like water treatment plants (WTP), distribution stations etc. But at the same time, it was

observed that the water quality was deteriorating due to absence of fresh water in the river in non-monsoon seasons and pollution causing activities in the upper stream. Because of the deteriorated water quality of raw water WTPs were struggling to maintain the desired quality of treated water.

SMC had a number of constraints in monitoring the quality of treated and supplied water. The water quality monitoring parameters like turbidity in raw water was checked once a day and parameters for supplied water like turbidity, residual chlorine, pH, hardness, alkalinity, chloride etc. were checked only once a week. The instruments and equipment used for water quality monitoring were not modernised and the quality of reports/data generated by using these instruments was not reliable and consistent. There was no dedicated staff for quality monitoring. There was only one centralised laboratory at headwater works. There was no schedule for sample collection. The laboratory staff had not checked all the parameters regularly.

With this background, all the efforts have been directed towards the efficient operation and maintenance of WTPs to meet the desirable quality of drinking water as per IS 10500, monitoring water quality with advanced water testing laboratory instruments at every stage of the water supply system and strengthening the water quality monitoring system and surveillance activities in the water distribution network.

Initiative

With the objective of improving water quality, the Hydraulic Department has proposed and established various water testing laboratories with modern instruments and equipment.

Implementation

A decentralized water quality monitoring system has been established, with one main laboratory at a key water distribution station and other water works stations have been equipped with all the water quality testing facilities. Stages,

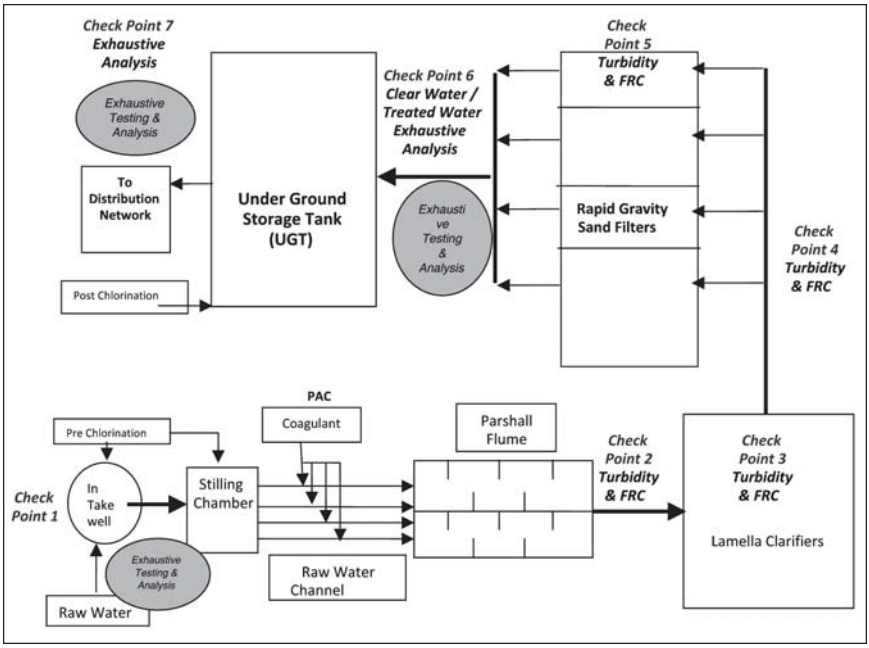
frequency, sampling, and parameters for monitoring have been stipulated in accordance with IS 10500 standards and for this purpose appropriate technologies, instruments, equipment, etc. have been selected and installed. Along with this, the Water Quality Surveillance Programme has been implemented to ensure the quality of supplied water. In order to achieve the desired results online meters like Multi-parameter Deployable River Monitoring Instrument, Digital Turbidity Meter, Digital Residual Chlorine Analyzer, etc. have been installed to check and measure the parameters like pH, turbidity, total dissolved solids, dissolved oxygen, chlorine, ammonical nitrogen etc. Arrangements have been made for conducting in house Phisco-chemical as well as Bacteriological tests on regular basis. Uniform procedures have been followed for record keeping at all the workstations. Fogging activities have been taken up in surrounding areas of WTPs. Continuous education and capacity enhancing programmes have been organised for lab technicians, operators, etc. for the effective performance of duties. A number of experience sharing programmes have been organised to exchange good practices in the sector.

Apart from these steps, SMC has approached Central Industrial Security Force (CISF) to conduct a comprehensive survey to assess the vulnerable points in water supply system against any terrorist attack and as per the recommendations installed Online Total Organic Carbon Analyzer as water contamination information tool.

Water Treatment & Quality Check Points

Impact

- Stages of monitoring (raw, in-process, treated and supplies) have been finalised with different frequency for monitoring each parameter as described in IS 10500.
- Some people from staff have been employed specially for water quality monitoring, which includes a microbiologist, technician, operating chemists, etc.
- An agency has been authorised to perform external maintenance and calibration



- Standardised reporting procedures have been defined
- 99% of the sample collected on daily basis was found fit during 2006-07
- Consumer confidence has increased
- Optimal usage of water treatment chemicals has resulted in savings
- IS 10500 standard have been strictly followed
- Various Test formats and logbooks were checked for water quality
- Customer complaints are negligible with respect to quality of water.

Success Factors

- Appropriate use of information technology for various activities
- Verification from external esteemed laboratories
- Staff strength has been increased for monitoring and routine monitoring work has been outsourced to reputed private contractors

SMC has organised number of capacity enhancement programmes and experience sharing meets for employees to attain the required competence for efficient performance of roles and responsibilities

USING GEOGRAPHICAL INFORMATION SYSTEM FOR STANDARDIZED PROPERTY TAX ADMINISTRATION AT BRUHAT BANGALORE MAHANAGARA PALIKE

The BBMP established a GIS linked property database for efficient and standardized property tax collection to provide online services to citizens on property tax assessment and payment.

Context

The Bruhat Bangalore Mahanagara Palike (BBMP) is one of the largest Municipal Corporations of India required an integrated property database as available information was scattered. Subsequent to the merger of adjoining agglomerations, the task of property assessment proved increasingly challenging and it was decided to put in place a GIS linked property database.

Initiative

Multi-purpose GIS-application based property database with customized software with following objectives

- Development of an Integrated database of properties for improved revenues through property tax
- Improved MIS on property assessment
- Provision of online services on property tax for citizen
- Standardization of property tax administration

Implementation

Satellite imagery was used to update base maps and each property was plotted with unique identity and survey numbers. Following physical verification, the data was integrated with revenue and tax application and is able to provide online services to customers in relation to property

tax assessment and payment. The system will be able to generate MIS reports both on physical attributes as well as property tax demand and collection information. It is also proposed to use the information for land use and urban planning.

Impact

- Availability of an integrated database for related applications.
- Potential to provide citizen interface to GIS linked information
- Transparency and accountability to citizen with standardized assessment , valuation and corrections of discrepancy
- Improved revenues
- Potential for full fledged online services

Enhancing billing and collection of revenue by online bill generation: Hyderabad Metropolitan Water Supply & Sewerage Board

Improvement in the billing and collection system resulted into revenues of water board

Context

While the HMWSSB had introduced spot billing system in 2000, facilities for spot collection were not available. Following spot billing, data upload process was carried out separately with the meter readers carrying the hand held devices to a central location. This was obviously a time consuming and inefficient process. The meter readers remained idle during the upload process. Further collection of bill payments was through the E-Seva centres or HMWSSB cash counters which involved a unit transaction cost of Rs 5. Most importantly billing and collection information were maintained separately with no facility for updating and reconciliation of records. The need was felt to improve the performance of meter readers, enable real time data updating of both billing and collection information to optimally utilize

the services of meter readers as well as to provide a collection facility to consumers at their door step. From 2009 onwards such a system was introduced involving around 630 meter readers issuing bills and collecting payments directly from the consumer and enabling real time update of this data in the central server.

Initiative

The HMWSSB which was responsible for the supply of potable water for a population of around 700000 in Greater Hyderabad Municipal Corporation developed an online mobile bill generation and collection system for enabling efficient billing and collection of revenues, accountability of meter readers, real time data on collection as well as provision of spot billing and collection facility for consumers.

Implementation

The system was introduced in a gradual and incremental manner and expanded to all jurisdictional divisions with a capital cost of only Rs 500,000. Each sub process from billing logic, data transfer from SBM to central repository, and subsequent data transfer from repository to application and the reporting modules were independently developed and tested. Integration of sub-processes was simulated on test platform by developing a separate set of hardware for data base and application. The initial HHM model constituted of a thermal printer. The output thermal print faded away within a couple of months resulting in negative feedback from the customers. To overcome this problem, the supplying agency was requested to integrate an impact printer into the handheld machine, which outputs a stable print. An on line application with limited storage data in the HHM and instantaneous update to the Data Base Server providing transparent information to the user was implemented.

Impact

- Decision support system and monitoring due to real time updating of data
- Monitoring and efficiency of meter readers

- Customer friendly services through payment and receipts at the door step resulting in 20% increase in demand collection
- Increased revenue collection [e.g. Rs 24 crores to Rs 30 crores annually in 2009)
- Direct collection of payments and billing resulted in savings of around 15,00,000 with respect to operations and manpower
- Ease of replication in other cities and sectors

E-SEVA: GOVERNMENT TO CITIZEN SERVICES OF MUNICIPAL SERVICES IN HYDERABAD

The Government of Andhra Pradesh has developed a successful business model for the provision of a range of Government/Service Provider to Citizen Services in a single window system

Context

Conventionally citizens are required to visit multiple offices with restricted timings and varying distances to avail services, remit payments, receive approvals etc. The E-Seva business model was introduced to provide system driven citizen friendly single window services through effective use of ICT for citizen interface and back end processes.

Initiative

The Government of Andhra Pradesh has developed a successful business model for the provision of a range of Government/Service Provider to Citizen services in a single window system with following objectives

Implementation

Clients and Government Departments are connected to a central service through a lease line and ISDN as back up. The E-Seva model involves a three tier architecture to facilitate the provision of services through a single window approach. Charges from the citizen for each service are structured to include a transaction charge of between Rs 2

to Rs 5 for utility bill payments and Rs. 10 for Certificate services with the service provider obtaining 20% from transaction charges as its share.

Services provided comprise utility bill payments including property tax, utility connections, Issue of Certificates, Registration, renewal of licences, obtaining permits from Labour, Health Departments, Transport Department services, Passport applications receipt, Information services on procedures of Departments, Ticket reservation for buses, water tankers, tourism, internet services, services and Police Services. A Bank to Citizen service is also planned. E seva centres are located at various key points.

Impact

- Multiple services at single point saving cost of travel and time
- Better ambience and friendly services and flexible hours
- Online updation of database
- Transparency in services
- Increasing number of transactions per day (e.g Hyderabad 40,000 transactions)
- Increased revenues (e.g. Hyderabad Rs. 60 million per day)

TRAFFIC INFORMATION SYSTEM INITIATIVE- B-TRAC, BENGALURU

To manage the rapid increase in traffic in the city of Bengaluru, the Bengaluru traffic police have initiated the B-TRAC, an intelligent real time information system on traffic and safety.

Context

Bangalore's road network is primarily radial and converging at the centre leading to unwarranted entry of traffic to the centre.Ring Roads are inadequate and need more flyovers, Arterial Roads are congested and Sub-arterial Roads

are congested and have parking pressure.The city has 1000 Sq. Kms of area,4500 Kms of Road,40,000 Intersections,330 Signalized Intersections and 600 Manned Intersections.The public modes of transport, mainly the buses, are vying for road space and have to compete with other modes of vehicles like autos, two wheelers, cars etc

Initiative

To manage the rapid increase in traffic in the city of Bengaluru, the Bengaluru traffic police have initiated the B-TRAC, an intelligent real time information system on traffic and safety. Various Surveillance cameras are installed across the city. Variable Message boards are set up giving information about the traffic jams in the city, seeing which citizens can change their route. Also enforcement cameras have been set up to traffic rules violators and an auto receipt is generated. This project won the National e Gov award. Following are the objectives of the initiative

Operational Objectives:-

- Reduce traffic congestion by 30% in central area
- Reduction in Pollution
- Reduction in accidents by 30%
- Improved parking management
- Set up accident reduction and trauma care system

Institutional Objectives:-

- Co-ordinated and planned traffic management
- Robust revenue model based on traffic fines
- Legal and institutional reforms
- Capacity Building - modern Traffic Training Institute
- Strengthening of traffic police by augmenting infrastructure

Implementation

Several technology-based initiatives such as use of BlackBerry devices to check traffic rule violations, installation

of GPS on buses, centralised traffic signal management, etc, have been launched under the project, bringing in transparency and accountability in the system.

More than 30000 road-side signage have already been installed. All signals to have highly reflective direction boards. Overhead gantries to indicate directions for better lane discipline.4. Reflective tubular cones, median markers, hazard markers, road studs etc for better lane discipline & safe driving. Reflective thermoplastic road markings are used as a means of controlling and guiding mechanism of traffic for smooth flow along the guided paths of travel. A Video Traffic Surveillance and monitoring system was commissioned in Bangalore City to enable better traffic management, law & order, management of the special event like public gatherings, processions etc. incident Management, information dissemination to road users. The system collects real time video from the specified locations by using Pan Tilt Zoom (PTZ) camera system transmitting these to the Traffic Control Centre through a IP network. The system therefore comprises of outstation equipment installed at the various location in Bangalore city and complementing equipment installed at the Traffic Management Centre.

Impact

- More traffic violations detected- from 35% in 2009 to 61% in 2010
- Total fine collected increased- from Rs 19 cr in 2007 to Rs 48 cr in 2010
- Reduction in number of road accidents- from 8426 in 2007 to 6483 in 2010
- It is also planned to set up nearly 400 signals which will be be vehicle actuated, networked, adaptive and controlled/monitored by the Traffic Management Centre (Area Traffic Control).
- Further it is planned to install 400 cameras, a state of the art Traffic Management Centre (TMC), Traffic Enforcement Cameras, Centrally Automated Traffic

Enforcement Systems, Traffic Police Mobility, Process, Communication, Modernisation and Capacity building through the development of modern Traffic Training Institute.

- It is also planned to install Variable Message Signboards to inform the motorists about diversions due to natural calamities like flooding, water clogging, fallen trees, electrical poles etc, manmade diversions like strikes, road blocks, agitations etc, safety Messages and Road incidents like accidents. This information would help motorists to plan their route better.

TOWARDS 24 HOUR WATER SUPPLY – NAGPUR

Nagpur city, located in the heart of the country, is the second capital of Maharashtra. Nagpur Municipal Corporation (NMC) provides water supply services to a city of 25 lakh people having an area of217 sq km. NMC with the support of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) is moving from intermittent to continuous water supply. It has initiated a 24x7 water supply project in public private partnership (PPP) mode in association with Veolia Water India on a pilot basis in a zone with 1.5 – 1.8 lakh people 15,000 house service connections and 10 slum areas.

Context

Nagpur Municipal Corporation supplies over 525 million litres of water per day (mld) to the city through about 2, 25,000 connections. The distribution network consists of over 2,100 kmof pipe line with an intermittent water supply system which allows incrustation, corrosion and tuberculation of the network. NMC is now moving towards a provision of 24x7 water supply in a pilot project with Veolia Water India in PPP mode through JNNURM. The process involves replacement of 100% house service connections and meters. Old conservancy galvanized iron (GI) pipes were also to be replaced. The tertiary network is being rehabilitated and hydraulic modeling is being done as per the master plan.

Installation of a new billing system and customer facility centre has been undertaken.

Initiative

The pilot project for 24x7 water supply is in progress in Ram Nagar zone. A 60 km network of improved high density pipes (HDPs) have been laid for distribution. Ten thousand house service connections and 5,000 slum connections are proposed of which 7,000 connections have been completed. A part of the pilot project area (Bajiprabhu Nagar – sub zone) is now on 24x7water supply system. This sub zone has about190 households and a slum area (Ambazari Basti).Each and every house has a tap connection with24x7 water supply and the total slum area has been provided with a bulk meter leading to redundancy and subsequent disconnection of stand posts in Ambazari Basti.

Implementation

The initiative ensures sustainability through long term cost recovery of the water supply system based on a comprehensive study/diagnosis of the system and rehabilitation of the distribution network. House service connections are being replaced and customer metering and improved billing systems are being introduced with resultant reduction in unaccounted flow of water(UFW). Water losses are identify(technical and commercial) and leak detection in bulk water supply system has been introduced. The project has a five year operation and maintenance (O&M) plan for the area.

Impact

Water supply hours increased from4.30 hours to 24 hours daily and consumption has increased from 440m3/day to 504 m3/day for Bajiprabhu Nagar. Telescopic tariff and billing as per consumption were introduced to reduce water consumption. Pressure at consumer water taps was increased from 2-5 metres to 10-12metres, resulting in energy saving for consumers as water does not have to be pumped to overhead tanks. The continuous pressurized network has

avoided the contamination of water from leaking house service connections which were replaced under this project. Slum areas also have 24x7 water supply services from the municipal network. Water quality in the pilot zone has improved, reducing the incidence of water borne diseases. Un accounted flow of water has already reduced from 69% in the zone to 33%in DMA of 144 regular connections and about 150 slum dwellers in Bajiprabhu Nagar DMA. The UFW will reduce further after completion of slum connection rehabilitation. Total billing volume of 137 m3/day has been increased to 338 m3/day(286 m3/day to regular consumers and52 m3/day to slum consumers against no billing to slums earlier). Experiences in customer interface will be utilized for the whole city.

BHAGIRATHI NAL-JAL YOJANA IN CHHATTISGARH: AN INITIATIVE FOR INCLUSIVE GROWTH-CHHATTISGARH STATE URBAN DEVELOPMENT AUTHORITY (CG-SUDA)

Summary

Bhagirathi Nal Jal Yojana is an urban water management scheme launched by Government of Chhattisgarh in August 2009 promoting inclusive urban growth through improved service to the poor. The urban poor households who apply for the scheme would be provided with a free water supply connection and the capital cost of the connection would be borne by the state government. The applicant must undertake to pay the water charges as prescribed. The ULBs will be lead implementing agencies of the scheme as per circulated guidelines, and are required to assess the funding requirements for providing water supply connections to uncovered urban poor households in their respective cities and submit a reimbursement demand to Chhattisgarh State Urban Development Agency (CG-SUDA), the state nodal agency for the scheme. The scheme targets to provide three lakh free connections called 'Bhagirathi Connections' to urban poor households in the State.

Last mile connectivity is the focus of the scheme and

Bhilai has been considered as the pilot ULB to implement the scheme, where the water supply project for design year 2021 is under execution. Bhilai with a target of providing 50000 connections has so far managed to receive 24000 applications of which 8600 free connections are completed. Thirteen other ULBs have also initiated the implementation of the scheme and about 125000 connections have been sanctioned so far. CG-SUDA is closely monitoring the implementation of Bhagirathi Nal Jal Yojana scheme in the ULBs.

Once the urban poor households are provided with access to water connections it is envisaged that the public stand posts be phased out and ULBs move towards user charge regime. The ULBs have already started generating revenues from Bhagirathi connections through fixed user charges of Rs. 60/- per month. The scheme is offering several benefits to urban poor by improving their quality of life, saving of time and energy especially to women folk, reducing cases of nuisance, quarrels at PSPs, increased citizen satisfaction r, and improved family health.

Context

Chhattisgarh State is formed in 2000 has 5.8 million urban population (23.2%) across 169 ULBs. 50 percent of the urban populations reside in 10 municipal corporations—Raipur, Bhilai, Korba, Bilaspur, Durg, Rajnandgaon, Raigarh, Ambikapur, Jagdalpur and Chimri. Almost 49 percent of state's urban population constitutes Urban Poor. Despite best efforts, the ULBs are constrained to provide basic services to urban poor.

Recognizing the fact that low water supply coverage in majority of the ULBs is due to prevailing high connection costs acting as entry barriers and forcing the urban poor to depend on public stand posts and water tankers, Government of Chhattisgarh proposed Bhagirathi Nal Jal Yojana scheme in August 2009. The scheme not only aims at enhancing water supply access to urban poor by providing free connections (Bhagirathi Connections), but also focuses on promoting better O&M practices by levying user charge revenues—essential for sustaining water supply systems in the ULBs.

Situation prior to the initiative

- Insufficient drinking Water Service in Urban Poor Localities
- Through ULB owned public stand posts, hand pumps, tankers
- Excessive dependence on PSPs
- ~7500 public stand posts in Raipur @ 1: 15 familiies
- Public Stand Posts in Bhilai: @ 1: 12 families
- Low water supply coverage in other ULBs. Only 8000 out of 1,50,000 HHs in Bhilai covered with individual piped water connections.
- Severe quarrels and violence among citizens, rushes at PSPs, Tankers etc to access water
- Improper timings of water supply through PSPs and Tankers
- Problems to Women in fetching water at odd timings
- Impact on livelihood, education etc.
- Heavy financial losses to ULBs

Initiative

The major objective of Bhagirathi Nal Jal Yojana is to provide potable piped water supply facility to three lakh urban poor families on affordable terms and also to migrate from free-be regime to user fee regime. The scheme intends to include urban poor in the growth process by improving their life conditions, especially those of women, by easing their struggle for basic services like water.

Impact

Through Bhagirathi Nal Jal Yojana it is envisaged that all the urban poor households get individual water connection, after which the public stand posts could be gradually phased out reducing the extent of NRW

- Coverage of ULBs: The scheme is open to all Municipal Corporations/Municipalities and Nagar panchayat towns in Chattisgarh

- Slum Selection: the MIC/PIC of the ULB selects the slum(s) according to its priority
- Implementation Committee: a committee is formed at the ULB level. The ward member/councilor of the selected ward and the assistant engineer in charge of water supply are members of this committee. Other members are as may be nominated by the MIC.
- Mobilisation Camp: The ULB organizes a camp in the slum wherein the points of the scheme are explained to the people, and applications are mobilized.
- Application & Approval: the applicant has to submit a simple application requesting for piped water supply facility in his house. the ULB staff help the applicant to fill up the application on prescribed form. The sanction is accorded on the spot.
- Title -Non an issue: the applicant's title to the house is not mandatory. However, it is made explicitly clear through an undertaking that the grant of piped water connection does not confer a title over the land.
- Demand for funds required: Once the applications are received, scruitinized and sanctioned, the committee computes the funding requirements for implementation of the scheme in that slum. Accordingly the reimbursement demand is raised on the CG-SUDA.
- Funds Flow: the ULB need not wait for receipt of funds from SUDA. It proceeds with execution and SUDA scrutinizes the demand and releases funds to ULB.
- Scope of Work: Under the scheme, the ULB is reimbursed the cost incurred on the following tasks:
    - o B class GIS distribution pipe
    - o Excavation and minor civil works
    - o Tap fittings
    - o Cost of meter
- Cap on Expenditure: the ULB will normally be reimbursed according to actual expenses, subject to a ceiling of Rs. 3000/- per connection

Impact

The Bhagirathi Nal Jal Yojana scheme is still in the early stages of implementation in many ULBs across Chattisgarh, but has demonstrated encouraging results till this stage of implementation. Pilot implementation of the scheme is being taken up in Bhilai Municipal Corporation. About 24000 applications have been received for free connections under Bhagirathi Nal Jal Yojana, of which 17500 are approved for implementation and 8600 connections are already operationalised. BMC targets to achieve 50000 Bhagirathi connections within the next one year. 13 more ULBs have already availed the benefits of the scheme and 12,400 connections are sanctioned across these ULBs.

- To ensure sustainability, State Government has suggested a user charge structure to the beneficiaries of free connections. A Flat rate of Rs. 60/- per month is proposed and directions issued to ULBs to implement the same.
- Revisions are suggested to the existing tariff structure for the non poor households who pay property tax @ Rs. 200/- flat rate per month and directions issued to ULBs.
- It is proposed to introduce metering system in future with volumetric billing.
- The scheme has potential to be replicated in other cities as well
- This may be done in two models (1) Implementation directly by ULB, and (2) Through a PPP model
- Scheme's sustainability lies in effective billing and revenue collection mechanism. Some ULBs are exploring the use of hand held devices and the task of billing and collection being considered for outsourcing to bring in efficiency. Small ULBs adopting 'a card system'.

BIOMETRIC ATTENDANCE SYSTEM FOR SANITARY WORKERS IN GUNTUR MUNICIPAL CORPORATION

The Guntur Municipal Corporation introduced a system of biometric attendance for sanitary workers with a view to

identify bonafide workers , rationalize expenditure and ensure better delivery of sanitation services.

Context

The Guntur Municipal Corporation employs around 2000 sanitary workers on direct payroll and through contractors to manage sanitation services-chiefly comprising malaria control, solid waste management of 350 MT per day , street sweeping of 1175 km of road and maintenance of 1500 km of drains. While expenditure on staff salaries both direct and via contractors increased, a corresponding improvement in sanitation services was not realized. One of the reasons was inadequate maintenance of workers' database resulting in the presence of bogus workers. In order to resolve the issue, a biometric attendance system was introduced

Initiative

The Guntur Municipal Corporation introduced a system of biometric attendance for sanitary workers with a view to identify bonafide workers , rationalize expenditure and ensure better delivery of sanitation services. Following are the objective

- To establish biometric based attendance system for sanitary workers
- Streamline the payroll system and expenditure efficiency
- Ensure better delivery of sanitation services

Implementation

Biometric attendance system was introduced through public private partnership arrangement. The total cost of the hardware and software was Rs 30, 00,000 with a monthly recurring cost of Rs. 1, 30,000. Biometric kiosks were installed in all 26 sanitary divisions. Biometric information based on iris recognition is maintained in the central server. Iris recognition is a one- time activity and is noted for its reliability. Attendance recording is carried out twice a day- at 5.00 a.m. and 2.00 p.m. respectively and is completed efficiently in only 20 minutes. Based on the attendance

information, the remuneration to contracts works is transacted online. The day to operations are taken care of by the private partner.

Impact

- Elimination of middle men and protection of bona fide workers
- Improved transparency and work ethics resulting in better service delivery
- Savings of around Rs 18,40,000 in four months
- Centralized payroll system with facility for computation of salaries and online transfer of salaries to workers' accounts

Chetan Vaidya and Nilanjana Dasgupta Sur

Urban Initiatives in India

At the end of the sixth year of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), it is heartening to note that cities are ready as well as eager to showcase their achievements, share and learn from one another. In this context, the "Urban Initiatives" Report is prepared for "Peer Experience and Reflective Learning" (PEARL) Project under the flagship programme on JNNURM. PEARL has already documented five volumes of urban initiative report, based on the urban initiatives carried out by mission cities. As most of the case studies presented in the reports are documentation of new urban projects and programmes initiated by the Urban Local Bodies, the documents stand as testimonies accomplished by the programme.

Some of the good practices covered under the documentations are Innovative IT Solution for Improving Urban Water Supply Management through Supervisory Control and Data Acquisition (SCADA) at Vijayawada and Pimpri Chinchwad; Urban Rejuvenation Projects for Solid Waste Management at Gorai, Nashik and Madurai Cities; Capacity Building through HRD Practices in Greater Visakhapatnam Municipal Corporation (GVMC); Community participation in the functioning of Urban Local Bodies in Hyderabad; E-Governance Reforms at Surat, Municipal GIS - Gorakhpur Experience; Payroll System and GIS system in Property Tax in Bruhat Bangalore Mahanagara Palike; Initiatives under Urban Renewal in Nanded; etc.

A few of the Urban Initiatives documented under the project are briefed below:

A. Offsite Real-time Monitoring System (OSRT)

State/City: Andhra Pradesh - Greater Hyderabad Municipal Corporation

The Offsite Real-time Monitoring System (OSRT) addresses the gap and uses the mobile camera to provide direct observation of distant events, real time, that have led to extraordinary improvements in upward accountability of municipal activities. The general objective was to rely on the mobile phone camera to provide real time images of far away events. Specifically, the purpose was to use the camera of the mobile phone to monitor real time from afar the attendance and bin cleaning status within the Greater Hyderabad Municipal Corporation (GHMC) spread over 625 sq.km area and containing 7.40 million population, as opposed to relying on manual attendance of workers and unreliable reports on trash bin cleaning.

The design contained a tool component containing preloaded applications and jobs on mobile phones to photograph, for example workers attendance, garbage bin cleaning, and daily street sweeping. The application allows users to record events with date, time and coordinates using the Global Positioning System (GPS). The tool was used to monitor activities, such as bin cleaning that are logged in to the mobile phone according to the prescheduled job and transferred to the central server using General Packet Radio Services (GPRS) technology. The GPRS is a non voice value added service that allows information to be sent and received across mobile telephony networks. A central server recovers, stores, processes, and disseminates the real time information allowing several stakeholders to actively participate in the accountability process. Specifically, the tool was applied to public health to increase process (workers attendance) and output (garbage bin cleaning) accountability. Daily images are monitored by health officers and wage payments to public health workers are determined by OSRT records generated, not attendance register or biometric tools. OSRT system was also applied to monitor bin cleaning. The solid waste management system consists of door-to-door collection of

garbage deposited in 3,800 bins and transported to dump yards. Again, the supervisors captured bin images containing the time and date stamp, coordinates, and the bin cleaning condition, including the cleanliness of area around the bins. Monitoring is done by engineers responsible for transportation of solid waste and special trips are made to clean bins shown as not cleaned in the OSRT images. Moreover, OSRT records form the basis to make payments to contractors. Independently, analysts working in the public health department do a real time evaluation (RTE) to detect duplication of images, errors in data entry, and an early-on analysis for immediate learning.

Uniqueness of the Initiative

- Innovativeness of the OSRT mechanism is founded on the integration of accountability tools and processes by relying on the eye of the mobile phone
- Availability of real time reports / data / images in public domain
- Utilizing the easy-to-use mobile phone eye (camera) for civic governance
- Reviews based on reports generated with 2 seconds latency
- Auto SMS to citizens upon registration of grievance (through mobile phone) and after redressal. Status verification of grievance through website
- Making municipal mangers more responsive and responsible and making citizens responsible
- Single point availability of various civic activities and outputs in public domain
- Usage of GPS / GPRS
- Satellite captured Latitude / Longitude and date/ time stamp on all images
- Utilizing Photo comparison and perimeter binding technologies
- Transparency in administration

- OSRT is in public domain and citizens have access to all its features like any GHMC official.

The OSRT is sustainable in the long run because the GHMC does the front-end operations and the private partner in the build-transfer-operate model is responsible for all the back linkages - hardware and software maintenance, application development, servers, mobile devices, and website maintenance for six years. Therefore, the project structure and reliance on the frugal mobile phone is expected to sustain the OSRT system in the long-term.

Such opportunities for citizens to watch distant municipal activities and the performance of municipal functionaries has led to substantial improvements in the efficiency and effectiveness of service delivery along all dimensions – inputs, activities, outputs, and outcomes. Based on the OSRT images the workforce attendance (inputs) improved from 85 percent to 98 percent and bin lifting (outputs) from 76 percent to 98.

B. Municipal Reforms Initiatives

State: Government of Karnataka

Government of Karnataka (GoK) with assistance from the Asian Development Bank (ADB) and World Bank has launched Reforms in Service Delivery and Accounting along with Computerization in all 213 ULBs of Karnataka to bring transparency and accountability in administration and to improve better municipal citizen interface.

The reforms initiative proposes to upgrade all ULBs from the existing manual system to Computer based systems. This has helped ULBs streamline their Municipal systems through process re-engineering and use of IT tools and Technologies, which will bring in transparency and ensures smoother delivery of services to the citizens of Karnataka. As a part of Accounting Reforms initiative, all ULBs are proposed to switch from Single Entry Cash Based Accounting System to Double Entry Accrual Based Accounting System. These Reform initiatives involve implementation of following

activities:

Phase-I: Website; Public Grievance and Redressal; GIS Based Property Tax Information System; Double Entry Accrual Based Accounting System; Birth & Death Registration & Certification.

Phase-II: Water Tax; Trade License; Ward Works and Assets Management; Building Plan Approval; e-Procurement.

These reforms have been institutionalized. Hence they are system driven as they are highly sustainable. The Municipal Reforms Cell has the various officers appointed in MRC, who shall ensure effective implementation of E-Governance modules. They offer online/onsite technical assistance to ULBs to sort out various implementation issues. The State Level GIS Agency i.e. the Survey of India has been appointed as a TASA for implementation of GIS in all the ULBs. The District Urban Development Cells and Nodal Officers positioned in the District Urban Development Cell are attached to the respective DC office have to handhold the ULBs in implementation and maintenance of e-Governance initiatives taken-up by the State Government. The above innovative process has resulted in a foolproof system of reforms implementation with following outcomes -

- GIS based Property Tax Management System has enabled ULBs to identify the un-assessed properties and bring them under tax net. This has resulted in identifying 30-40% un-assessed properties.
- The Fixed Assets worth crores of rupees otherwise unnoticed have been physically identified, enumerated and brought into records.
- Each ULB has a comprehensive Website provides not only information but also the transaction capabilities. The Websites are designed to provide:
  - City Financials
  - City council and staff
  - Land use, Water and SWM Statistics
  - Citizen friendly Pie charts and GIS Reports

- Web based applications has enabled the Government in centralized monitoring of ULB progress, implementation of various projects and also to monitor proper discharge of their duties.
- The Public Grievance & Redressal module introduces transparency & accountability. Complaints can be prioritized and assigned to the appropriate official. This system is not only useful to redress individual citizen's complaints, but also useful to understand "what kind of problems occur at which parts of the city and during what time of the year".
- Further, e-Governance has resulted in higher transparency, general awareness about ULB administration and increased accountability.
- Institutionalization of reforms has enabled grooming of in house experts who have conducted numerous training for ULB staff regarding e-Governance applications and their role and responsibility.

C. Gorai Dumping Ground – An Urban Rejuvenation Project

State/City: Maharashtra - Mumbai

The Municipal Corporation of Greater Mumbai (MCGM) showed leadership in addressing the challenge of disposal of Municipal Solid Waste (MSW). Within Mumbai City, MSW is disposed at three disposal sites by open dumping – Gorai, Mulund, and Deonar. MCGM has recently allocated another one at Kanjur under the directives of the Hon'ble High Court of Mumbai. The challenge in the context of Mumbai lied in developing a scientific and environmentally compatible MSW processing and landfill facilities while keeping the site specific constraints in mind. MCGM bid out and appointed Infrastructure Leasing & Financial Services (IL&FS) to provide environmental consultancy and project advisory services for developing an ISWM plan for the Metropolitan city in July 2005.

The ISWM Project, which includes a comprehensive waste disposal plan, has been developed by IL&FS on a Public – Private Partnership (PPP) framework. The Waste Management Plan was worked out as a set of independent but well synchronized projects, for each of the disposal sites at Gorai, Kanjur, Deonar and Mulund. MCGM awarded the projects on a Design, Build, Own, Operate and Transfer (DBOOT) basis for a period of 25 years which would enable the private sector operator to recover the investments along with reasonable returns. The entire project development including obtaining all the clearances was done by IL&FS which greatly facilitated private sector participation. The strategy that was adopted included scientific closure of the Gorai site and setting-up of Waste Processing Facilities and Sanitary Landfill Facilities (SLF) [after shifting and relocating of existing waste within the site] at Deonar and Mulund and setting-up a waste processing facility and SLF at the green field site of Kanjur as well. Each of these projects was considered as a separate project for bidding under Industry Classification Benchmark (ICB) process on a PPP framework.

Since the MSW accumulated at the Gorai site had reached its capacity, IL&FS designed a scientific closure strategy in accordance with the MSW Management & Handling (M&H) Rules 2000. As part of the strategy, IL&FS developed the detailed design for leveling and reforming the existing heap of MSW and incorporating environmental mitigation measures including laying of impermeable surface cover (Geotextile/ High-density polyethylene sheet), sheet piling to secure the site against tidal inundation, landfill gas (predominantly methane) collection and leachate collection and treatment system, development of a green belt and landscaping including a green cover over the dumpsite.

The Gorai dumpsite closure being the first of its kind, the construction and O&M contract was competitively awarded to a consortium led by United Phosphorus Limited (UPL) and M/s Van Der Weil Strotgas BV. The construction and O&M contract was designed in a way that preserved the

public interest nature of this project with several positive externalities, while bringing in the construction know-how, management and efficiency skills of the private sector. The construction of the Project was completed in 24 months and at a cost of ‘ 500 million with the O&M estimated at ‘ 120 million.

IL&FS has been a pioneer in developing a revenue model that makes MSW projects financially sustainable. This includes mobilizing carbon funds (for the first time for closure of dumpsites) and capturing valuable by-products such as methane gas to energy and waste to organic compost. IL&FS has also worked with Chemical Fertilizer Companies to off-take organic compost which also has the benefit of improving soil nutrients and productivity a key challenge for the Agricultural Sector in India. It has also developed a site that recycles C&D Waste to road sub-base and pavement blocks. In the case of the Gorai dumpsite closure amongst the value additions brought in by the IL&FS, has been carbon financing and conversion of methane gas to electricity.

As most MSW services depend on payment of tipping fees or collection fees or O&M and other contractual fees from municipalities, IL&FS had sought to mitigate this payment risk by generating cash flows from the following multiple activities:

- Sale of waste by products such as compost;
- Conversion of waste to energy;
- Use of construction debris waste in pavement blocks and for road construction;
- Carbon credits from avoidance of green house gases through waste projects;
- Financial products such as bill discounting to cover payment risks.

The Gorai Landfill Closure and Methane Capture Project converted about 19 hectare of a dumping ground into green landscaped spaces for the Citizens of Mumbai. It sets a benchmark in urban rejuvenation. The project demonstrates several benefits from scientific closure of dumpsites including:

- Creation of 19 hectares of green space in Mumbai.
- Restoration of mangroves that had degenerated due to toxic Leachate from the dumpsite.
- Noticeable improvement in the quality of creek water due to treatment of leachate.
- Property value in the area increased with higher property tax collection for the municipality.
- Power generation from methane.

D. Operation and Maintenance Practices in Water Supply System

State/City: Gujarat – Surat

Water treatment plants being the heart of water supply system, each stages / unit / process of water treatment needs to be operated and maintained such that treated water quality always confirm desirable limit of drinking water standard IS 10500. Therefore with the goal to continue drinking water supply to the Citizen of Surat City without any major interruption, Surat Municipal Corporation had taken the following initiative for -

- Standardization of all operations / functions of water supply with the help of Quality Management System.
- Delegation of responsibilities in the area of production, engineering and maintenance (Electrical and Mechanical), water quality control, quality control engineering, instrumentation and control, administration and housekeeping, design and development etc.
- Formulation and execution of various check points for raw water, in-process water quality control and finished / treated water quality control.
- Formulation and execution of routine, breakdown, preventive and predictive maintenance schedules for Electrical and Mechanical machineries. Formulation of annual disinfections program.

A series of initiatives have been taken in order to monitor the health of River Tapti. It became very clear that the root of all above threat i.e. polluted / contaminated source of river water is not only in the Jurisdiction of SMC alone (without the help of other Government Agencies) cannot solve this problem from its root on its own. Hence, a group of stakeholders including SMC was formed. In this regards all suggestions for preventive measures given by National Environmental Engineering and Research Institute (NEERI) have been taken into consideration. At the same time, all efforts have been directed towards effective operation and maintenance activity wherein appointed Officers on Special Duty (OSD) of Individual Water Works are instructed to play their active role.

The project established several benefits for the system:

- Installation of ultrasonic type flow-meters for raw water and treated water quantity measurement helped department to assess the water losses during water treatment. This has triggered the awareness for the minimization of water losses during water treatment process amongst the operating staffs.
- Activities of Calibration and validation for meters are being done with the help of Government Organization – M/s. EQDC.
- Water being dispatched from the individual water works to water distribution station is quantified now and daily records for the received water is maintained at individual water distribution station
- Prior to metering in Industrial units, department was able to receive revenue to the tune of Rs.16.00 Crore per Annum. After installation of flow meters in industrial units, revenue has increased from Rs.16.00 Crore per annum to Rs.24.00 Crore per annum.
- Dedicated electrical and mechanical maintenance work with dedicated electrical maintenance team and mechanical maintenance team, faults and

failure in electrical system has reduced remarkably and hence, unwanted downtime is avoided.

- Timely calibration of inspection, measuring and test instruments / equipments helped department to generate reliable data, information for the performance of individual instrument / equipment.
- All water distribution stations and water works are covered under Factory Act. Factory inspectors inspects twice a year to ensure the various safety measure implemented by Surat Municipal Corporation or to ensure the necessary compliance under Factory Act for electrical / machineries.
- Incoming water in water treatment plants is continuously monitored and recorded. Any abnormality / changes observed in river water are instantly noticed and necessary action for the water treatment process is implemented immediately.
- Each stages of water treatment like raw water, in-process water, treated water and supply water is monitored for parameters like Turbidity and Residual Chlorine on hourly basis. This help department to control the water treatment process.
- With online water quality monitoring, entire water treatment plant is monitored and judged for its claimed performance. Supply water is monitored round the clock for basic parameters like pH, Total Dissolved Solids, Turbidity, Residual Chlorine, prior to dispatch to City. Data so recorded helps department to make trend analysis and to judge the efficacy of water treatment.
- Essential parameters as mentioned in drinking water standard IS 10500 are monitored on weekly basis at all water works for raw water, in-process water, treated water and supply water.
- Raw water is monitored for sewage parameters like BOD (Biological Oxygen Demand), COD (Chemical Oxygen Demand), Ammonical Nitrogen, TOC (Total

Organic Carbon), Dissolved Oxygen etc. to know the extent and of pollution in river water. Multi-parameter deployable instrument is being used for the same.

- Optimization of usage of water treatment chemicals (process inputs). Minimization of wastages of water treatment chemicals has resulted in savings.
- Laboratory for the surveillance monitoring and distribution water helped to support the daily surveillance activity. Samples taken randomly from the consumers are checked for its portability.

With the Material Management System introduced, the software maintains the inventories. This helped to generate periodical reports for the material under stock, re-order quantity etc. coding for all critical engineering items being used in engineering and maintenance work is done. All procurements are done through tenders, which are being continuously updated for their critical terms / conditions / specifications that only best are attracted. Further, all terms and conditions are so legally formulated that interest of Surat Municipal Corporation is well protected and are made full proof, even in the low of court. Water works, water distribution stations of the water supply system are facilitated with the Dual Power Supply system so as to ensure the continuity in water supply. Power supply companies like Torrent Power and Dakshin Gujarat Vij Company Ltd., have been made agree to create such facility in Surat Water Supply System. In order to ensure the uninterrupted water supply even in contingency / abnormality aroused due to any calamity, department has develop capability and self-sufficiency. Water Supply system of SMC is having unique GRID connectivity, which connects water works, water distribution stations and pumping stations of water supply system. As on date, four water works, 10 major water distribution stations and 4 sub stations are inter connected in such a way that in case of any abnormality or shut down of any water works, water can be catered from the other water works or water distribution station.

E. Efficient Health Care Management System – Service to Urban Poor

State/City: Maharashtra - Pimpri Chinchwad

To cater to the healthcare needs of its current population, the Pimpri Chinchwad Municipal Corporation (PCMC), through its medical and health department, is currently operating eight hospitals (two multi-specialty hospitals and six maternity and general hospitals) and 16 dispensaries. Since slum population are more prone to be infected by diseases and existing healthcare system does not cater to the information related to the health and health service received by urban poor and citizens, a new system was envisioned. The project scope includes implementation of a healthcare management system across all its hospitals and dispensaries to improve its healthcare services and target availability of health services to urban poor.

The new project initiated PCMC to use IT to connect its Out-Patient Departments (OPDs) at eight hospitals and 16 dispensaries. Credit Rating and Information Services of India Ltd. (CRISIL) designed the scope of the Project. The scope required the selected vendor to implement health care management system software along with the necessary hardware and infrastructure. The scope was aligned to the requirements of PCMC hospitals and dispensaries in terms of software customization, hardware and infrastructure requirements. The system enable the creation of a patient database, which will store every patient's medical history, laboratory test results, radiology results, previous doctor's prescriptions and drugs administered to the patient. This database will be stored at a central location and will be able to be accessed through the Web-based system across all locations. With the availability of photo pass for slum dwellers, the medical database of the urban poor is recorded and can be used to establish the accessibility of medical services to urban poor. The concept of health card has been introduced to enable effective data retrieval. Each patient being treated at these OPDs will be given a health card,

which will bear a unique identification number along with a bar code and a colored photograph of the patient. The patient will be required to carry the health card for visits to the OPDs. By using the unique identification number, the doctor will have access to the entire medical history of the patient. This will be useful in diagnosing patient's problems and thus, providing appropriate treatment to them. Also, since the information will be stored at a central database and will be accessible across all PCMC OPDs, the patient will have the flexibility of going to the nearest PCMC OPD.

With the objective of implementing the health care management system, PCMC launched a two-stage bidding process comprising the qualification stage of request for quotation (RFQ) in March 2009, and the selection stage of request for proposal (RFP) in June 2009. The bidding parameter for the selection of the vendor was the lowest fee quoted for the above-mentioned scope of work. The selected Vendor has provided a health care management system for all PCMC OPDs, including software customization as required by PCMC, hardware installation, and a proper infrastructure set-up within a period of six months. The Citizen's health care management system involves the following steps:

- During the patient's first visit to any of the eight hospitals or sixteen dispensaries, the patient is issued a health card.
- Once the patient is directed to the doctor, the patient's login is available on doctor's computer.
- The doctor fills in patient's diagnostic details, medicine, lab test details in the system.
- While the patient goes to collect the medicine and take the lab test, the in-charge has the patient's record displayed on his system and he certifies what has been provided to the patient and uploads the lab test result of the patient in the system.
- The stores officer knows through his system the reduction in stock of the medicines and consumables in the hospital and accordingly plans to replenish the

stocks in the hospital at its designated location.

- During the subsequent visit of the patient, to whoever doctor the patient's medical history along with the name of the last doctor attended, medicine prescribed and lab test results are available.

The central application deployment architecture entails that irrespective of the location, a user can connect to the Web-based central application and its database that stores all the data. This technical optimization of the healthcare system has brought cost savings from reduced hardware and infrastructure costs, apart from resolving the potential technical issues with the distributed system architecture. The Vendor will be responsible for bearing the cost of printing and issuing of health cards to patients. PCMC will allow the Vendor to recover a fixed charge per health card from the patients. This arrangement eliminates the risk of variation in the number of cards to be issued and thus has a direct impact on the cost as well as the recurring expense to be incurred on printing 'the health cards.

The improvements envisaged through the project are as follows:

- Enabling a significant operational control and streamlining of operations to improve operational efficiency.
- Enabling improved quality of healthcare through documented patient medical records.
- Enabling integration of pathology and radiology test results along with pharmacy requirements with the patient medical record.
- Enabling improved response time to demands of patient care through automation of the process of collecting, collating and retrieving patient information.
- Reducing the time spent on clerical activities by the Doctors.
- Enable control over operational costs.

*Trends in PSP in Indian Water Sector : A Critical Review**

Introduction

Since the 1990s, there have been several attempts in India to involve the private sector in urban water supply services. These attempts have had mixed outcomes: while several projects planned during the initial years were abandoned in the development phase, there has been an increase in the number of contracts awarded to the private sector in recent years. There has also been a change in the type of projects developed and the role of the private sector in these projects.

Recognizing the changing scope and character of private sector participation in Indian urban water supply services, the Water and Sanitation Program (WSP) has undertaken a study to review these projects. This study reviews trends and the factors that have facilitated or impeded the development and implementation of projects in the sector with private sector participation; draws on learning from project design and the transactions; and reflects on future directions. As most such projects are still at early stages, it has not been possible to assess their operating or financial performance in any depth. The study covers Public Private Partnership (PPP) attempts in urban water supply from 1990 till 2009, that have not been abandoned at conceptualization stage (Table 1). Information was collected though consultations and interviews with government and private sector stakeholders and PPP experts, as well as from publicly available documents and project case studies.

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* This Field Note is a summarized version of the Report, *Trends in Private Sector Participation in the Indian Water Sector: A Critical Review,* based on a study undertaken by the Water and Sanitation Programme (WSP). Reproduced with permission from WSP, World Bank, New Delhi.

The term PPP in the Indian urban water sector generally does not mean provider functions being contracted out in their entirety to a private provider. For the purpose of this study, therefore, any project where a private operator delivers services (such as bulk water supply, domestic piped supply or water treatment) and is remunerated based on output or performance-linked payments from the project sponsor or the consumer is termed a PPP project. Such projects may or may not involve private sector investments. Further, the study is restricted only to formal PPP arrangements sanctioned by the city/utility. Informal private provisioning of water services, as is commonly found in low income neighborhoods, is therefore not included under this study.

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Table 1: List of PP projects selected for assessment

1990-2000	2000-04	2005 Onward
Cauvery Bulk Water SupplyProject: Stage IV, Phase-II (Karnataka)	O&M contract, Sangli (Maharashtra)	KUWASIP: 24x7 water supply for Belguam, Hubli-Dharwad,and Gulbarga (Karnataka)
Krishna Raw Bulk water supply project (Andhra Pradesh)	Water Treatment Plant, Sonia Vihar, Delhi	Dewas Industrial water supply (Madhya Pradesh)
Tirupur Industrial water supply project (Tamil Nadu)	O&M contract for Mumbai K East (Maharashtra)	Chennai Desalination plant (Tamil Nadu)
Selaulim Bulk Water Supply (Goa)	O&M contract for 21 pilot zones in Delhi	Contract for water supply system, Sector V, Salt Lake, Kolkata (West Bengal)
Water supply and sewerage project, Pune (Maharashtra)	O&M contract for 2 pilot zones in Bengaluru under BWSSB (Karnataka)	O&M contract for pilot zone, Nagpur (Maharashtra)

1990-2000	2000-04	2005 Onward
–	O&M contract for 8 municipal councils in Bengaluru under BWSSB (Karnataka)	Management contract for O&M, Latur (Maharashtra)
–	Visakhapatnam Industrial Water Supply project (Andhra Pradesh)	Industrial water supply contract, Haldia (West Bengal)
–	O&M for Chandrapur (Maharashtra)	Bulk water supply project, Bhiwandi Nizampur city (Maharashtra)
–	–	O&M contract for water supply system, Mysore (Karnataka)
–	–	O&M contract for water supply system, Madurai (Tamil Nadu)
–	–	Concession agreement distribution system, Khandwa (Madhya Pradesh)
–	–	Concession agreement: distribution system, Shivpuri (Madhya Pradesh)
–	–	BOT agreement: bulk water supply, Naya Raipur (Chhattisgarh)

BWSSB: Bangalore Water Supply and Sewerage Board; BOT: Build Operate Transfer; KUWASIP: Karnataka Urban Water Sector Improvement Project; O&M: operation and maintenance

Context

Official estimates show that over 90 percent of urban households in India have access to water supply services.Hidden within this figure, however, are numerous indicators of poor quality of access, low reliability of supply, poor water quality, high loss levels, and low cost recovery. No

Indian city receives 24x7 piped water supply. Piped water is never distributed for more than a few hours per day. Coverage levels of water supply and sanitation services have increased considerably, but this has not necessarily translated into improved services that are safe and reliable.

Recognizing the need for institutional reform, the major Government of India urban programs—the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT)—have linked national transfers for urban infrastructure to institutional reforms at state and city levels. Among the sector challenges identified in the program documents is leveraging private-sector capital and skills. The JNNURM accordingly encourages states and cities to engage the private sector to improve services.

The National Water Policy of 2002 and the Planning Commission's 11th Five Year Plan also encourage private sector participation as a means to improve services.

Emerging trends in urban water supply PPPs

Based on the assessment of PPP projects initiated in the urban water supply sector since the 1990s, a few trends appear to be emerging. These indicate a shift in the profile of contracts being developed, and the role of stakeholders involved. A summary of PPP activity across this period is provided in Table 2.

Table 2: Summary of PPP projects in the Indian urban water supply sector

Parameters	1990s	2000-04	2005 Onward
Number of PPP projects attempted	5	8	13
Contracts awarded	1	3	13
Current status of contracts awarded	1 operational	2 operational	12 projects are under various stages of implementation/ operation; 1 project is currently stalled.

Parameters	1990s	2000-04	2005 Onward
Project scope	•) 100% bulk water supply	•)75% distribution O&M •)13% bulk water supply •) 12% water treatment	•)38% distribution O&M •)31% distribution investment + O&M •)8% treatment + system rehabilitation/upgradation+distribution O&M •)15% bulk system investment + O&M •)8% desalination
PPP model	100% BOT/ BOOT	•) 75% management contracts •) 25% BOT/ BOOT	•)38% management contracts •)62% BOT/DBFOT and similar
Private operator mix	100% international	•)65% international •)35% domestic	•)65% domestic •)21% international •)14% local/regional

BOOT: Build Own Operate Transfer; DBFOT: Design Build Finance Operate Transfer; O&M: operation and maintenance

Increase in the number of PPP projects reaching contract award stage

Since the 1990s, there has been an increase in the number of PPP projects initiated or awarded. Whereas only four PPP contracts were awarded before 2004, another 13 were awarded since 2005. Before 2004, only 40 percent of the initiated projects were successfully awarded, whereas since 2005, all the projects initiated were awarded. Some 5 million people in urban areas now obtain water supply through projects or institutional arrangements that involve the private sector. The year-wise increase in the population of cities with active PPP contracts is presented in Figure 1.

Shift in the geographic concentration of PPPs

There has been a gradual broadening of states and cities where PPPs have been undertaken in the water sector. In the 1990s, such initiatives were largely concentrated in the southern states of Tamil Nadu, Karnataka, and Andhra Pradesh.

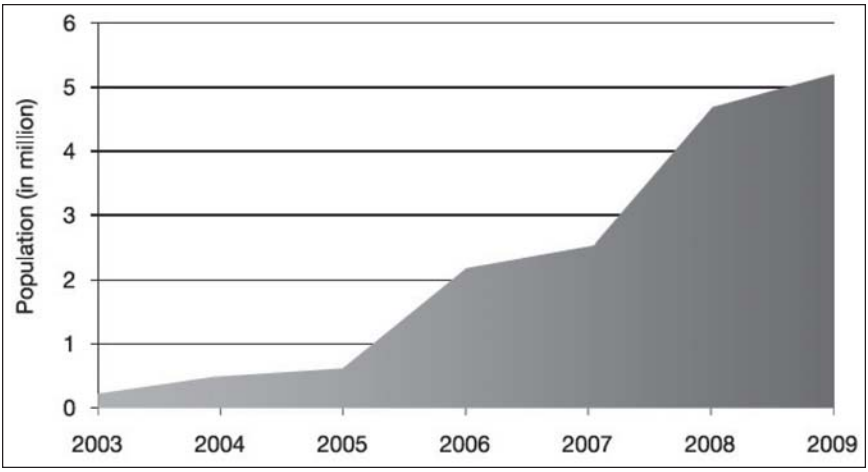

Figure 1: Timeline of population of cities with active PPP contracts

Between 2000 and 2004, projects were being proposed in Karnataka, Delhi, Maharashtra, and Andhra Pradesh, and since 2005, elsewhere, including Madhya Pradesh and West Bengal. The availability of public funding under schemes such as JNNURM has enabled a wider cross-section of states and cities to initiate projects on their own. Positive experiences with national PPPs in other infrastructure sectors—especially energy—have also stimulated interest in water supply PPPs.

More PPPs for distribution improvements

Most of the water supply PPP projects during the 1990s were aimed at augmentation of bulk water supply systems. Since the early 2000s, however, 80 percent of the projects that attempted to bring in the private sector were aimed at operation and maintenance (O&M) improvements of the distribution system. Today, approximately 60 percent of PPP projects address O&M improvements, 30 percent focus on bulk water supply augmentation, and the rest include both bulk water supply augmentation and O&M of the entire water supply system (Figure 2).

The type of PPP arrangements has also changed. During the 1990s, the trend was primarily Build Operate Transfer (BOT) with 100 percent private financing. The majority of the O&M improvements since 2000 involved management

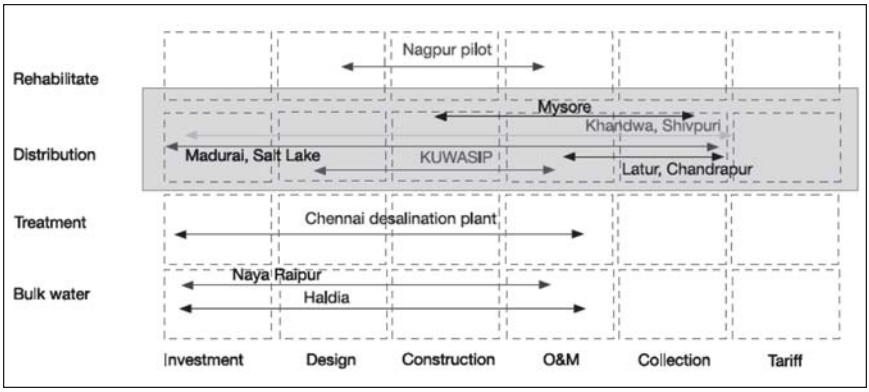

Figure 2: Focus area of water PPPs currently in progress

contracts, with the public sector providing most of the investment. Learning from the failure of the earlier large scale BOT projects, state governments, and international funding agencies encouraged the management contract model to emulate the managerial efficiencies of the private sector, while minimizing the risks and costs associated with previous project structures.

Today, the operational contracts are a mix of concession agreements, BOT projects, and management contracts. There are variations in the BOT models implemented, with a few of them requiring partial to full private financing. The Illustration in Figure 3 represents the shift in the type of PPP

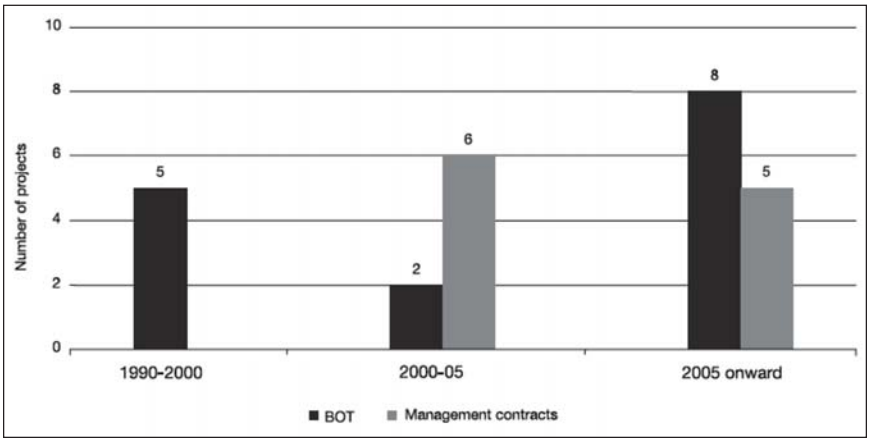

Figure 3: Mix of PPP arrangements

arrangements since the 1990s Possibly as a reflection of this shift in scope and type of PPPs, the time taken between project initiation and the award of contract has become much shorter. Up to 2000, the average time to reach the contract award stage was four years; since 2005 the time taken between project initiation and awarding PPP contracts has been two-and-a-half years on average. The reduced private investment component and absence of tariff implications may have contributed to a shorter project development period.

Reduced reliance on multilateral funding for PPPs

The attempted early water supply PPPs followed strong advocacy by multilateral funding agencies and, up to the mid-2000s, several depended heavily on financial assistance from these agencies to meet capital costs. However, since 2005, most water PPP projects have been initiated by the project-sponsoring authority itself, such as Urban Local Bodies (ULBs) and state departments.

Increased share of public financing in PPP projects

In line with the policy directions of economic liberalization in the 1990s, the earlier PPPs envisaged private financing, but since 2005, a growing number of urban water supply PPP projects have been developed on the basis of substantial public funding. At present, 50 percent of projects have been developed with financial support from the central government. The capital injection from schemes such as JNNURM and UIDSSMT has been a major driver of this shift. Public funding for PPP projects in progress within the JNNURM framework (including the UIDSSMT component) covers approximately 60-70 percent of the escalated project cost. Moreover, JNNURM has created an impetus for private sector participation. The additional funding lowers the cost of PPPs, and the appraisal process under the program encourages PPP-based projects.

Given the high risk perceptions about water PPPs in India, the share of private investment is likely to remain limited, and reliance on public funding substantial. Moreover, given the weak financial health of ULBs, most public funding

would need to come from state and central government sources, rather than ULBs.

More domestic private operators

During the 1990s, water supply PPPs mostly involved international private operators. Of the five water supply PPP projects initiated at the time, three involved international private operators directly, that is, the Cauvery Bulk Water Supply Project of the Bangalore Water Supply and Sewerage Board (BWSSB); the Selaulim Bulk Water Supply Project in Goa; and the Krishna Bulk Water Supply Project of the Hyderabad Metro Water Supply and Sewerage Board (HMWSSB). While several projects planned during the early part of 2000 continued to anticipate the presence of international operators, for project awarded since 2005, domestic operators have emerged as the most important category of private players in India's water supply sector.

In as many as 75 percent of PPP contracts since 2005, the bidding consortia have been led by national-level domestic private operators. These private operators are mostly Indian engineering, procurement and construction companies or other business houses which have added water service provision to their business lines. Sector participants suggest that domestic operators may be able to mitigate risk to a greater extent than international firms because their local knowledge enables them to navigate through the local project environment, which tends to be politically challenging in the water supply sector. Domestic operators have therefore become more prevalent, either on their own or as consortium partners alongside international operators. Figure 4 puts the growth of the domestic private sector in perspective. Among these are several domestic operators who have a provincial presence, as in the case of the Khandwa water supply PPP project which was awarded to Hyderabad based EPC2 firm, Vishwa Infrastructure and Services Private Limited.

Over the years, there has also been a shift in the international operators who have been interested in the Indian water supply PPP market. In the 1990s, the dominant

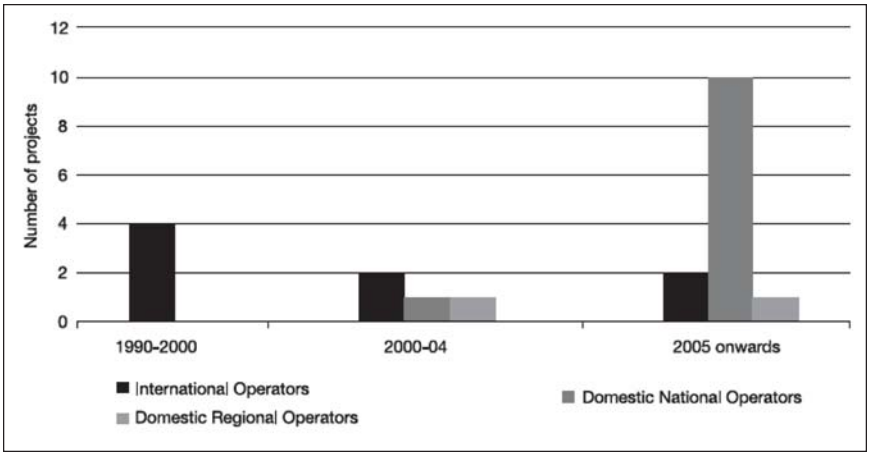

Figure 4: Shift in private operator mix in water PPPs in India

international players were United Kingdom (UK)-based operators such as Bi Water, Thames Water, and Anglian Water, and French operators such as Suez Environment and Veolia Water. Today, however, while the French and UK-based operators have a limited presence, there is increasing interest by South-East Asian water supply utilities in the Indian water PPP market.These include Ranhill Utilities Berhard (Malaysia), Manila Water Company (Philippines), among others.

How does India compare with international experience?

Several trends described above mirror those observed in other developing country contexts. A recent global study by the World Bank3 of PPPs since the 1990s reveals increased public funding, fewer full concessions, and a growing presence of domestic operators (accompanied by withdrawal of large international operators). The Indian experience at this early stage appears to be mirroring the trends observed in other parts of the developing world.

Critical factors facilitating and constraining PPP projects in urban water supply sector

It is too early to come to a conclusion about the success or failure of private sector participation in urban water in terms of outcomes. It is possible, however, to obtain an insight

about factors that have contributed to or constrained the progress of anticipated PPPs to the point of contracts being awarded.

In the analysis below, the terms 'success' and 'failure' are used with reference to the award of contract and do not encompass performance outcomes of the PPP project.

Constraints

Most anticipated water PPPs that did not move to contracting stage, failed to do so because of cost concerns, and the limited financial and technical capacity of utilities. As a result, political and administrative support has remained tenuous for these projects. It is worth analyzing these constraints in greater detail.

- **Inconsistent and inadequate local stakeholder support:** Lack of stakeholder support for water PPP projects has been a significant reason for several PPPs not moving forward. This has blocked some high profile attempted PPPs, such as the proposed Cauvery Bulk Water Supply and Selaulim Bulk Water Supply Projects, and a water and sewerage PPP planned in Delhi. Stakeholder groups that did not support the projects have included local political parties, civil society groups and utility or municipal employees of the public water utilities. The lack of support has been largely due to perceived threats to the specific interests of some of these stakeholder groups, and a view of water as a public good. Much of the debate has been quite emotive, with any form of private sector participation made out to be "privatization", which dramatizes the notion of a public good being used at the behest of private profiteers.
- **Weak financial capacity to implement water PPPs and lack of mechanisms to address tariffs:** Financial risk perceptions have prevented several planned PPPs from moving forward. Most water PPPs proposed in the 1990s were to be highly capital-intensive and dependent on 100 percent private financing. The implementing agencies for most of these projects could, however, not provide the

guarantees required by the private water operators, and lacked the financial capacity and internal revenues to pay bulk charges. Opposition developed towards these PPP projects, as consumers expected water tariff escalation.

- **Limited awareness and technical capacity to undertake PPPs:** The lack of experience and limited understanding of water PPPs resulted in implementing agencies not satisfactorily addressing the risk concerns of private operators and the demands of project structuring. Inadequate baseline information, lack of clarity on risk sharing, and weaknesses in the procurement processes contributed to difficulties in getting these PPPs off the ground.

Facilitative factors

Where PPP contracts have been awarded, one or more of the following facilitative factors seemed to have been present:

- **Availability of public funding:** Water PPPs in recent years have benefited from public funding more than in earlier years when private investment was anticipated to be the major source of financing. The JNNURM has made a new form of public funding available which has enabled ULBs to pursue PPP approaches, unlike in the past when the use of public funds required public procurement. In Salt Lake City (Kolkata), and Shivpuri and Khandwa (Madhya Pradesh), public funding covered 50-60 percent of project costs, which has reduced the financial burden on the private operator, thus lowering projects costs and pressure for tariff increases.
- **Improved mechanisms to address tariff concerns:** In some recent water PPP projects, measures have been built in to minimize the tariff and revenue risk of the private operator. In the Naya Raipur project, costs outside the concessionaire's control (especially power and chemicals) are subsidized by the public sector. In the Khandwa and Shivpuri PPP projects, safeguards are provided against defaults in customer payments.

- **Increased attention to stakeholder support:** Recent projects have benefited from improved stakeholder consultation at an early stage of the project (for example, Karnataka Urban Water Sector Improvement Project [KUWASIP], Salt Lake City). In several of these projects, the need for intervention was substantiated and articulated to stakeholders. For instance, against the backdrop of acute water shortage, unreliable supply, and financial losses, stakeholders in Chandrapur, Khandwa, and Shivpuri were more receptive to exploring private sector participation as there was a strong demand for better services. The turnaround in services delivered through the KUWASIP project further strengthened faith in the private sector's ability to provide viable options for service improvements.
- **Strong project ownership and expertise:** An important success factor has been strong project ownership and expertise in the project initiating authority. In the KUWASIP project, the state infrastructure financing agency, Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC), played an active role in project conceptualization, feasibility studies, stakeholder consultations, and procurement.Similarly, PPP projects in Madhya Pradesh, Kolkata, Haldia, Naya Raipur, and Latur have benefited from project management expertise in state governments departments or agencies.
- **Growth in domestic private sector interest:** In several recent projects, domestic operators have been the dominant players. They have typically exhibited high risk-taking appetite, and the ability to manage their costs better. Higher participation by bidders has also contributed to the increase in contract awards.

In summary, successful contract awards in water PPPs have been based on a platform of well structured public funding, which helped address tariff concerns and thereby gain stakeholder support. The trend has been further supported by a rise in domestic private operator interest, and

improved project ownership and expertise in state agencies.

Emerging isues that have an impact on water sector PPPs Recent trends in urban water supply PPPs indicate that the sector has moved in a positive direction. However, there are some emerging issues that could hamper progress of water PPPs in the future.

Current progress is still at a project level, rather than sector wide

In other infrastructure sectors (such as power, highways), PPP has been adopted as a sector strategy and sector-level enablers have been created (such as model concession agreements, the new Electricity Act). Compared to this, PPP momentum in the water sector has been a project-level initiative. Stakeholder support for water PPPs tends to be tactical and opportunistic, often aimed at trying to maximize a temporary public funding opportunity. Moreover, the dependence on public funding and inadequate movement on tariff reform raise questions on the long-term sustainability of projects.

Project preparation, structuring, and risk sharing remain patchy

The current project preparation process tends to be rushed, due to short timeframes for submission of proposals for grant programs and the short tenures of decision makers. The result is weak information baselines and hurried procurement, poor quality proposals, and high risk perception by operators. In several performance-based O&M contracts for distribution improvement, performance expectations from private operators are unrealistic with respect to both standards set and timeframes. Risk sharing is not widely adopted, so that operators often bear risks related to costs not under their control (for example, raw water, electricity).

Cities lack the capacity to design, implement, and monitor PPPs

The commitment to PPP is often restricted to the higher levels of the decision-making body and not matched by

technical capacity at the operating level. Given their prior focus on asset creation, the implementing agencies usually lack the capacity to monitor and oversee contracts and service standards. They also lack the skills and flexibility to engage in dialogue on contractual and financial terms in the course of the project. Lastly, employee acceptance of private operators remains uncertain, especially for contracts that require existing employees to be absorbed by the latter.

Way forward and possible interventions

Four aspects will be relevant to achieve successful water PPPs:

Create enablers to widen the current project-specific approach into a sector trend

A clearly articulated stand from the national government will enable stakeholders and utilities to strengthen their position with respect to PPPs in the water sector. Given the substantial investment gap and weak financial health of utilities/ULBs, public funding from the central and state governments will continue to be necessary to support PPPs, for example, through JNNURM-type funding.

Pricing would become more realistic if quantitative analysis of sector viability is improved, and guidance on tariff structures and subsidies become clearer. Widespread adoption of the Ministry of Urban Development's Service Level Benchmarking program would strengthen the drivers for private sector participation and will also improve project development.

Help cities follow well established and accepted principles to increase the chance of success of PPPs

To reduce unrealistic performance expectations from private operators, a practical framework is required to phase capital investments and achieve desired service levels over a period of time. A framework to address common issues in water PPPs can provide a much desired uniformity across water PPPs. This would include connection policies, tariff collection procedures, disconnection policies, and payment

security mechanisms as well as a common set of risk sharing principles.

Build cities' implementation and monitoring capacity

Even as external enablers are activated, cities' capacity to engage in PPP needs to be enhanced. Funding assistance for project preparation from the national level (for example, the India Infrastructure Project Development Fund) can help cities devote the required resources in this very important, and often expensive, activity. To accelerate knowledge transfer, a forum of administrators from utilities, ULBs and states, who have successfully implemented water PPP projects, can be created to share lessons with other cities. State governments and nodal agencies could play an important role in creating an enabling environment (for example, public funding, tariff policies, as well as supporting and mentoring project development and implementation).

Develop sector regulation as a long-term measure

The presence of a regulator can strengthen the performance orientation of local bodies and provide an objective basis for tariff setting and targeted subsidies. In doing so, it can help create a more transparent and predictable environment for attracting investment into the sector, including from private sources, and facilitate improved project design and implementation through PPP structures. The introduction of sector regulation, however, needs to be also accompanied by other enablers such as rationalized public funding, tariff frameworks, increased role clarity, and stakeholder participation.

In summary, recent trends indicate a growing interest in water PPPs, with more projects reaching the contracting stage, supported largely by increased availability of public funding for water PPPs. If the private sector is to play a significant role in addressing the investment and service backlogs in the sector, suitable interventions are necessary to scale up this momentum while ensuring projects that deliver the desired service outcomes on a sustainable basis.

BOOK REVIEW

Urbanization and Growth

By Michael Spence, Patricia Clarke Annez and Robert Buckley
Published by Rawat Books 2011 Price Rs. 395

Economies rarely grow without their cities growing. No country has either achieved high incomes or rapid growth without substantial urbanization. Also, as amply demonstrated in Indian context, if mishandled, the growth of cities poses problems that can derail economic prosperity. The book lucidly espouses its central theme that because urbanization is an important enabling parallel process in rapid growth, making it work well is critical. Echoing typical travails that afflict, for instance, India's urban management, Patrica Annez and Robert Buckley, to begin with, deliberate the broad macro relationships between growth and urbanization.

The first challenge is to foster the growth of high productivity activities that benefit from agglomeration and scale e economies in the cities. The second involves managing the "real social and political headaches, such as over-crowding, concentrated squalor, crime, street violence and the quick transmission of disease", along with the "side effects of the economic success of cities-congestion, regional inequality, high prices of land and housing". The economic benefits of cities are often reflected in property prices, as evident in country's numerous land grab scams indicating the potential for abuse and corruption. Unrealistic planning standard marginalize lower-income residents by making legal housing unaffordable. Tight planning norms and high demand in real estate markets combine with weak institutions and corruption to make real estate development expensive and

slow, weakening the supply response just when it needs to be stronger.

As people move to cities in large numbers, the demand for housing and serviced land in urban areas expands rapidly. Supply responds sluggishly, as a result the price of land and housing rises beyond the reach of poor people. The Republic of Korea is a glowing example of a dramatic effort to raise supply: Twenty –five percent of land was declared 'urban', compared to five percent earlier; two million homes were added to the housing stock over a period of 7-8 years. Likewise, the Singapore Government controlled land and maintained a near monopoly over house-building.its heavy housing subsidies served both social and economic ends, bringing an end to squalid slums and defusing ethnic strife. Korea's industrialization in the 1960s drove its population to Seoul, which by 1970 was home to 41 percent of its urban population. Between 1970 and 1990, the trend reversed, as Seoul's share fell to 33 per cent, partly by the massive dispersal of manufacturing industries from Seoul to outlying areas, although even so Seoul remains one of the world's densest cities, denser than Tokyo and twice as dense as New York.

Advocating urban policy interventions in developing countries, Gilles Duranton develops a consistent framework in chapter 3 with a vow to, first, make cities" work better" (by improving the provision of local public goods, from sewerage to public transport) and, second, to limit urbanization (by curbing the movement of people from rural to urban areas).The labour supply curve is driven largely by living conditions in the countryside rather than cities. Negative agricultural shocks lower the labour supply curve, causing workers to flock to cities, thereby lowering urban welfare. Any attempt to thwart rural dwellers from moving to cities only makes them worse off.

Reviewing the linkages between urbanization and economic development, John Quigley analyses the factors limiting the efficient sizes of cities. In many cases the economic circumstances of urban migrants are worse than

those of rural peasants. The free flow of labour from unproductive agriculture to urban employment tends to equalize wages. One of the most basic measures of urban inequality is the urban-rural wage gap. Because urban wages are typically higher than rural wages, urbanization introduces spatial inequality in wages and incomes between cities and rural areas as well as across cities of different sizes.

Deliberating options to improve housing affordability Richard Arnott recommends a focus on providing-infrastructure rather than housing for the poor and endorses former UN Secretary General Kofi Annan's work, The Challenge of Slums (2003), which says that the locus of global poverty is moving to the cities, a process now recognized as the "urbanization of poverty"-the number of slum dwellers worldwide is projected to rise over the next 30 years to two billion.

Developing countries, including India, are urbanizing at an unprecedented scale and pace, and their cities are showing the strains. Active government intervention is needed to ensure that adequate infrastructure for this period of rapid urbanization is provided. The most promising avenue to achieve some degree of economic justice would appear to be the provision of a minimal level of public services-health, sanitation, sewage, primary education and water-which, in turn ,will require the infrastructure needed to provide such services.

Raghu Dayal
Senior Fellow, Asian Institute of Transport Development

MAIL BOX

I have read with keen interest the article written by Anil Swarup on the Rashtriya Swasthya Bima Yojna (RSBY) which is an excellent example of leveraging technology on the one hand and a government. PSU partnership mechanism to deliver healthcare package with efficiency. It has also ensured that its coverage grows seamlessly without government mediation once the RSBY card has been issued.

The effectiveness of this business model appears to be the growth rate of the coverage of the BPL families which is driven by the insurance companies who see a business opportunity to enhance revenues. At the same time the empanelled clinics/hospitals have also increased their revenues which reflect the growing patronage by the beneficiary families. Also indications have been cited where these service providers have upgraded and augmented their healthcare infrastructures.

The self-generating momentum is the key feature of this scheme which is commendable and Shri Anil Swarup deserves kudos for his innovative and administrative skills.

Ramesh Dayal
New Delhi

P.S. Bawa's article on "In Search of Practical Ethics" is not only very readable it also provides the steps that can be taken to practice in real life. It is the inner voice that can be of help. A looking inside rather than only blaming outside is a good lesson brought out by him in his piece.

Anukriti Agarwal
New Delhi

Prem Shankar Jha's article on the electoral process is very enlightening and has detailed the evolution through which the process has passed showing how muscle power combined with black money brought criminalization to politics

in India and persons with criminal records as members of the Parliament or members in the Legislative Assembly. His solution that State funding of elections could solve the problem, however, needs more thought. State Funding of elections has not solved the problem in the countries where it has been tried. Nonetheless Shri P S Jha deserves to be congratulated for his brilliant article.

Anand Swarup
New Delhi

I must compliment you on the quality of the Journal, the quality of contents and the entire presentation which is indeed superb, and the entire issue is eminently readable.

Dhanendra Kumar
New Delhi

Thank you very much for sending us a copy of your esteemed journal "The Journal of Governance". We would like to have an exchange arrangement with our IIC Quarterly, a copy of which is sent to you with a request to accept our proposal so as to enable us in streamlining our exchange arrangement.

S. Majumdar
IIC Chief Librarian

I have read with interest all the articles in The Journal of Governance Vol. 3 and find them very useful for our trainee officers and faculty members.

Director General
Uttarakhand Academy of Administration

We have found "The Journal of Governance" both interesting and useful. We will be willing to subscribe for the Journal and if possible we will be grateful to receive older issues of the Journal.

S.K. Parikh
Deputy Librarian
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